



Zoological Record

Vol. LXVIII, 1931.

IMF INST. ENT. — LIBRARY —
21 JUN 1932
SERIAL <i>Ln. 350</i>
SEPARATE

XI
INSECTA

PREPARED BY
THE IMPERIAL INSTITUTE OF ENTOMOLOGY

PRINTED FOR THE ZOOLOGICAL SOCIETY OF LONDON
AND
THE IMPERIAL INSTITUTE OF ENTOMOLOGY
41, QUEEN'S GATE, LONDON. S.W. 7.

—
PRICE FIFTEEN SHILLINGS

July, 1932.

THE MUSEUMS JOURNAL.

THE ORGAN OF THE MUSEUMS ASSOCIATION.

Articles, Reviews, and Notes on every Museum Aspect of
Zoology: Collecting, Taxidermy, Preservation of Specimens.
Installation of Exhibits, Museum Publications, Technique of
Systematic Work.

Monthly, Price 2s. Dulau & Co., 32, Old Bond Street,
London, W.1.

Free to Associates. Subscription £1 1s. 0d. per annum.

XI. INSECTA

BY

THE IMPERIAL INSTITUTE OF ENTOMOLOGY

FOREWORD

THE attention of readers is directed to the fact that owing to the necessity of keeping the "Insecta" part within reasonable limits, entomological papers written entirely from an economic standpoint are omitted, but abstracts of these will be found in the *Review of Applied Entomology*. Very brief systematic papers, usually those dealing only with a single species, are noticed in the systematic portion only and do not appear in the list of titles.

CONTENTS

	PAGE
I. TITLES	9
II. SUBJECT INDEX :—	
General	144
Morphology	146
Physiology	150
Development	153
Aetiology	156
Ethology	159
Geography or Faunistic	165
III. SYSTEMATIC :—[Orders and families in alphabetical order.]	
General	175
Anoplura	405
(N-3346 j) Q	11

PAGE						PAGE
Coleoptera ...	...	...	...	...	...	175-246
Aclopidae	...	...	—	Cyphonidae	...	195
Adimeridae	...	...	—	Dascillidae	...	196
Aegialiidae	...	...	217	Dasytidae	...	198
Alleculidae	...	...	210	Dermestidae	...	194
Amphizoidae	...	...	—	Derodontidae	...	—
Anobiidae	...	...	197	Dicronychidae	...	201
Anthicidae	...	...	212	Discolomidae	...	193
Anthribidae	...	...	230	Donaciidae	...	240
Aphodiidae	...	...	217	Drilidae	...	200
Aspidiphoridae	...	...	197	Dryopidae	...	195
Boridae	...	...	208	Dynastidae	...	219
Bostrychidae	...	...	196	Dytiscidae	...	183
Brenthidae	...	...	230	Elateridae	...	201
Bruchidae	...	...	239	Endomychidae	...	193
Buprestidae	...	...	203	Erotylidae	...	193
Byrrhidae	...	...	195	Eucnemidae	...	200
Byturidae	...	...	—	Eumolpidae	...	241
Cantharidae	...	...	198	Galerucidae	...	242
Carabidae	...	...	178	Georyssidae	...	—
Cassididae	...	...	246	Geotrupidae	...	217
Catopochrotidae	...	...	190	Glaphyridae	...	217
Cebrionidae	...	...	—	Gnostidae	...	183
Cephaloidae	...	...	—	Gyrinidae	...	184
Cerambycidae	...	...	232	Haliplidae	...	183
Cerophytidae	...	...	200	Halticidae	...	242
Cetoniidae	...	...	219	Helodidae	...	—
Chironidae	...	...	—	Helotidae	...	192
Chrysomelidae	...	...	241	Hemipeplidae	...	192
Cicindelidae	...	...	177	Heteroceridae	...	195
Ciidae	...	...	196	Hispidae	...	244
Cistelidae	...	...	210	Histeridae	...	191
Clambidae	...	...	—	Hybosoridae	...	217
Cleridae	...	...	197	Hydrophilidae	...	195
Clytridae	...	...	240	Hydrosaphidae	...	—
Coccinellidae	...	...	193	Hygrobiidae	...	—
Colydiidae	...	...	193	Hylophilidae	...	212
Copridae	...	...	215	Idiostomidae	...	—
Corylophidae	...	...	—	Ipidae	...	228
Cossyphodidae	...	...	193	Karumiidae	...	200
Crioceridae	...	...	240	Lagriidae	...	211
Cryptocephalidae	...	...	241	Lamellicornia	...	214
Cryptophagidae	...	...	193	Lamiidae	...	236
Cucujidae	...	...	192	Lampyridae	...	200
Cupesidae	...	...	183	Languriidae	...	—
Curculionidae	...	...	220	Lariidae	...	239
Cyathoceridae	...	...	—	Lathridiidae	...	193

Coleoptera (*contd.*) :—

	PAGE		PAGE
Leptinidae ...	190	Prionidae ...	232
Liodidae ...	191	Proterhinidae ...	228
Longicornia ...	231	Pselaphidae ...	190
Lucanidae ...	215	Ptiliidae ...	191
Lycidae ...	199	Ptinidae ...	197
Lyctidae ...	196	Pyrochroidae ...	212
Lymexylonidae ...	197	Pythidae ...	211
Megalopidae ...	240	Rhagophthalmidae ...	—
Megascelidae ...	—	Rhipiceridae ...	196
Melandryidae ...	211	Rhipiphoridae ...	214
Melasidae ...	200	Rhysodidae ...	—
Meloidae ...	213	Rhysopaussidae ...	208
Melolonthidae ...	217	Rutelidae ...	218
Melyridae ...	197	Sagridae ...	—
Micromalthidae ...	—	Sandalidae ...	196
Monommidae ...	211	Scaphidiidae ...	191
Mordellidae ...	213	Scolytidae ...	228
Mycetophagidae ...	193	Scraptiidae ...	211
Nilionidae ...	—	Scydmaenidae ...	190
Nitidulidae ...	192	Serropalpidae ...	211
Ochodaeidae ...	217	Silphidae ...	190
Oedemeridae ...	211	Sphaeriidae ...	191
Orphnidae ...	—	Sphaeritidae ...	—
Orsodacnidae ...	240	Sphindidae ...	196
Ostomidae ...	—	Staphylinidae ...	185
Othniidae ...	—	Stylopidae ...	214
Parnidae ...	195	Taurocerastidae ...	—
Passalidae ...	214	Telephoridae ...	198
Paussidae ...	183	Temnochilidae ...	—
Pedilidae ...	—	Tenebrionidae ...	208
Pelobiidae ...	—	Thorictidae ...	193
Perothopidae ...	—	Throscidae ...	—
Phalacridae ...	192	Tretothoracidae ...	208
Phengodidae ...	200	Trichopterygidae ...	191
Phylloceridae ...	201	Trictenotomidae ...	—
Phytophaga ...	239	Trixagidae ...	—
Platypidae ...	230	Trogidae ...	217
Platypsyllidae ...	—	Trogositidae ...	192
Pleocomidae ...	—	Xylophilidae ...	—
Collembola ...	...		427-429
Dermaptera ...	...		414
Diptera ...	...		334-378
Acanthomeridae ...	351	Anisopodidae ...	336
Agromyzidae ...	376	Anthomyiidae ...	367

Diptera (*contd.*) :—

	PAGE		PAGE
Asilidae ...	352	Mydidae ...	—
Bibionidae ...	336	Nemestrinidae ...	352
Blepharoceridae ...	337	Neottiophilidae ...	371
Bombyliidae ...	353	Neriidae ...	373
Borboridae ...	370	Nycteribiidae ...	378
Braulidae ...	356	Ochthophilidae ...	376
Calliphoridae ...	365	Oestridae ...	358
Cecidomyiidae ...	335	Omphralidae ...	352
Ceratopogonidae ...	338	Orphnephilidae ...	—
Chamaemyiidae ...	376	Ortalidae ...	371
Chiromyzidae ...	—	Pachyneuridae ...	336
Chironomidae ...	339	Pantophthalmidae ...	351
Chloropidae ...	373	Petauristidae ...	344
Clusiidae ...	371	Phoridae ...	356
Clythiidae ...	357	Phryneidae ...	336
Coenomyiidae ...	351	Phycodromidae ...	370
Conopidae ...	358	Phytomyzidae ...	376
Cordyluridae ...	370	Piophilidae ...	373
Culicidae ...	339	Pipunculidae ...	356
Cyrtidae ...	352	Platypezidae ...	357
Deuterophlebiidae ...	—	Platystomidae ...	371
Diopsidae ...	374	Psilidae ...	373
Dixidae ...	343	Psychodidae ...	343
Dolichopodidae ...	354	Ptychopteridae ...	344
Drosophilidae ...	376	Pyrgotidae ...	371
Dryomyzidae ...	371	Rhagionidae ...	351
Empidae ...	354	Rhopalomeridae ...	—
Ephydriidae ...	375	Rhyphidae ...	336
Erinnidae ...	348	Sapromyzidae ...	371
Fungivoridae ...	335	Sarcophagidae ...	365
Geomyzidae ...	376	Scatomyzidae ...	370
Helomyzidae ...	371	Scatophagidae ...	370
Heteroneuridae ...	371	Scatopsidae ...	336
Hippoboscidae ...	378	Scenopinidae ...	352
Itonididae ...	335	Sciaridae ...	335
Lauxaniidae ...	371	Sciomyzidae ...	371
Leptidae ...	351	Sepsidae ...	373
Lonchaeidae ...	371	Simuliidae ...	336
Lonchopteridae ...	—	Sphaeroceridae ...	370
Lycoridae ...	335	Stratiomyidae ...	347
Micropezidae ...	373	Streblidae ...	378
Milichiidae ...	376	Syrphidae ...	357
Muscidae (<i>s. str.</i>) ...	367	Tabanidae ...	348
Muscidae Acalyptratae ...	370	Tachinidae ...	359
Muscidae Calyptratae ...	358	Tachiniscidae ...	373
Mycetophilidae ...	335	Tanyderidae ...	344

Diptera (*contd.*) :—

	PAGE		PAGE
Termitoxeniidae	... 356	Trixoscelidae	... 376
Thaumaleidae	... —	Trypetidae	... 372
Therevidae	... 352	Tylidae	... 373
Tipulidae	... 344	Xylophagidae	... 348
Trichoceridae	... 344		
Embioptera	... 408		
Ephemeroptera	409–411		
Fossils	429–434		
Hemiptera	379–402		
Acanaloniidae	... 391	Helotrephidae	... —
Acanthiidae	... —	Henicocephalidae	... —
Achilidae	... 390	Hydrometridae	... —
Aëpophilidae	... —	Isometopidae	... —
Aleurodidae	... 399	Issidae	... 391
Anthocoridae	... 386	Jassidae	... 392
Aphidae	... 396	Kinnaridae	... —
Aradidae	... 381	Lophopidae	... 390
Belostomatidae	... 387	Lygaeidae	... 382
Berytidae	... —	Meenoplidae	... 389
Capsidae	... 386	Membracidae	... 392
Ceratocombidae	... —	Mesoveliidae	... 386
Cercopidae	... 391	Microphysidae	... —
Chermidae	... 395	Miridae	... 386
Cicadellidae	... 392	Myodochidae	... 382
Cicadidae	... 388	Nabidae	... 386
Cimicidae	... 386	Naucoridae	... 387
Cixiidae	... 389	Neididae	... —
Coccidae	... 400	Nepidae	... 387
Colobathristidae	... 382	Notonectidae	... 387
Coptosomatidae	... 380	Ochteridae	... —
Coreidae	... 381	Peloriidae	... —
Corixidae	... 387	Pentatomidae	... 380
Cydnidae	... —	Phymatidae	... 384
Delphacidae	... 389	Piesmidae	... 383
Derbidae	... 390	Plataspidae	... 380
Dictyopharidae	... 389	Pleidae	... 387
Dysodiidae	... 381	Polycetenidae	... 386
Eurybrachidae	... 389	Psyllidae	... 395
Flatidae	... 391	Pyrrhocoridae	... 382
Fulgoridae	... 389	Reduviidae	... 384
Gelastocoridae	... 387	Ricaniidae	... 391
Gerridae	... 387	Saldidae	... —
Hebridae	... —	Scytinopteridae	... —

Hemiptera (*contd.*):—

PAGE

PAGE

Termitaphidae —
Tettigometridae...	... —
Tingidae ...	... 383

Tropiduchidae ...	... 390
Veliidae ...	... 387

Hymenoptera ... 247–274

Agaonidae ...	... 261	Masaridae ...	... 256
Agriotypidae ...	... 265	Miscogasteridae ...	... 263
Aphelinidae ...	... 262	Mutillidae ...	... 255
Apidae (<i>s. l.</i>) ...	... 247	Mymaridae ...	... 264
Aphidiidae ...	... 269	Pachylommatidae —
Belytidae ...	... 261	Pelecinidae —
Bethylidae ...	... 255	Perilampidae —
Braconidae ...	... 269	Platygasteridae ...	... 260
Calliceratidae ...	... —	Pompilidae ...	... 255
Callimomidae ...	... 261	Proctotrupidae ...	... 261
Ceraphronidae ...	... —	Psammocharidae ...	... 255
Chalcididae ...	... 262	Pteromalidae ...	... 263
Chrysididae ...	... 257	Rhopalosomidae —
Cleonymidae ...	... —	Sapygidae —
Cynipidae ...	... 264	Scelionidae ...	... 260
Diapriidae ...	... 261	Scoliidae ...	... 255
Dryinidae ...	... 255	Serphidae ...	... 261
Elasmidae ...	... 263	Siricidae ...	... 274
Encyrtidae ...	... 262	Sphegidae (<i>s. l.</i>) ...	... 253
Eucharidae ...	... —	Stephanidae ...	... 271
Eulophidae ...	... 263	Tenthredinidae ...	... 272
Eumenidae ...	... 256	Thynnidae —
Eupelmidae ...	... 262	Torymidae ...	... 261
Eurytomidae ...	... 262	Trichogrammatidae ...	... 264
Evaniidae ...	... —	Trigonalidae ...	... 265
Formicidae ...	... 257	Vespidae ...	... 256
Ichneumonidae ...	... 265		

Isoptera ... 407–408

Lepidoptera ... 275–326

Aegeriidae ...	... 315	Bombycidae ...	... 305
Agaristidae ...	... —	Brahmaeidae ...	... 305
Alucitidae ...	... 314	Brassolidae ...	... 279
Amathusiidae ...	... —	Callidulidae —
Anthelidae ...	... 297	Castniidae ...	... 310
Apoprogenidae ...	... —	Ceratocampidae ...	... 305
Arbelidae ...	... 306	Cercophanidae —
Arctiidae...	... 290	Charideidae —
Baroniidae ...	... 285	Chrysopolomidae —

Lepidoptera (*contd.*):—

	PAGE		PAGE
Chrysotypidae ...	...	Morphidae ...	279
Cochlidionidae ...	307	Neocastniidae ...	—
Cocyiidae ...	—	Noctuidae ...	291
Cossidae ...	306	Notodontidae ...	298
Cymatophoridae ...	298	Nymphalidae ...	279
Dalceridae ...	310	Oenochromidae ...	299
Danaidae ...	277	Oxytenidae ...	—
Dioptidae ...	305	Papilionidae ...	285
Drepanidae ...	311	Parnassiidae ...	285
Endromidae ...	307	Pericopidae ...	290
Epichnopterygidae ...	—	Perophoridae ...	307
Epicopeidae ...	306	Phalaenidae ...	291
Epiplemidæ ...	306	Pieridae ...	284
Epipyropidae ...	307	Psychidae ...	306
Erycinidae ...	282	Pterophoridae ...	314
Eupterotidae ...	298	Pterothysanidae ...	—
Geometridae ...	299	Pyrilidae ...	311
Hepialidae ...	326	Ratardidae ...	—
Hesperiidae ...	287	Riodinidae ...	282
Heterogynididae ...	310	Saturniidae ...	305
Hypoptidae ...	—	Satyridae ...	277
Hypsiidae ...	290	Sematuridae ...	—
Lacosomidae ...	—	Sesiidae ...	315
Lasiocampidae ...	306	Sphingidae ...	297
Lemoniidae ...	305	Syntomidae ...	288
Lepidarbelidae ...	306	Tascinidae ...	—
Libytheidae ...	—	Teinopalpidae ...	285
Limacodidae ...	307	Teragridae ...	306
Liparidae ...	295	Thyatiridae ...	298
Lycaenidae ...	282	Thyrididae ...	311
Lymantriidae ...	295	Tineidae (<i>s. l.</i>) ...	315
Megalopygidae ...	307	Tortricidae (<i>s. l.</i>) ...	323
Metarbelidae ...	306	Uraniidae ...	306
Micropterygidae (<i>s. l.</i>) ...	326	Zygaenidae ...	310
Mimallonidae ...	307		
Mallophaga ...	...		405
Mecoptera ...	...		333-334
Neuroptera ...	...		329-333
Odonata ...	...		411-414
Orthoptera:— ...	...		414-426
Acrididae ...	420	Grylloblattidae ...	418
Blattidae ...	415	Mantidae ...	416
Gryllacridae ...	418	Phasmidae ...	417
Gryllidae ...	417	Tettigoniidae ...	418

							PAGE
Paraneuroptera	...	...	...	...	...	...	411-414
Plecoptera	...	...	...	...	...	...	408-409
Plectoptera	...	...	...	...	...	...	409-411
Protura	...	...	...	...	...	...	... 429
Psocoptera	...	...	...	...	...	...	405-407
Siphonaptera	...	...	...	...	...	...	378-379
Thysanoptera	...	...	...	...	...	...	402-404
Thysanura	...	...	...	...	...	...	... 427
Trichoptera...	...	...	...	...	...	...	327-329
Zoraptera	...	...	...	...	...	...	... —

1.—TITLES.

1.—Plymouth Marine Fauna. Marine Biol. Ass. Plymouth 2nd Ed. 1931 371 pp. [Insects pp. 223–235.]

2.—New species of insects from Japan described during the year 1930. Insecta matsum., Sapporo 5 1931 pp. 211–217.

3.—Common names of insects approved for general use by the American Association of Economic Entomologists. J. Econ. Ent., Geneva, N.Y. 24 1931 pp. 1273–1310.

4.—Abonyi, S. Züchtung der Seidenraupe (*Bombyx mori* L.) mit künstlich zusammengesetzten Nahrungsmitteln. [In Hungarian with German summary.] Mat. Term. Ért., Budapest 47 1930 pp. 353–365. [Lep.]

5.—Achundow, I. Die Fauna der Culicidae der Republik Aserbeidschan. Arch. Schiffs- u. Tropenhyg., Leipzig 35 1931 pp. 671–677, 3 figs. [Dipt.]

6.—Acqua, C. Se si possa influire nel bivoltinismo durante la ninfosi. [Summary in French p. 30.] Boll. Staz. sper. Gelsicolt. Ascoli Piceno 10 1931 pp. 10–19. [Lep.]

7.—Adair, E. W. & E. E. The introduction of the eri or castor oil silk-worm into Egypt. Bull. Soc. ent. Egypte, Cairo 1931 pp. 140–156. [Lep.]

8.—Adams, N. B. Hints on the preservation of insects and spiders. Austr. Mus. Mag., Sydney 4 1931 pp. 173–175, 3 figs.

9.—Adkin, R. The moths of Eastbourne. Parts I and II. Trans. Eastbourne Nat. Hist. Soc. 10 suppl. 1 1930 100 pp. 30 pls. 1 map; suppl. 2 1931 98 pp. 25 pls. 1 map. [Lep.]

10.—Adler, S. & Theodor, O. A study of the sandfly population in endemic foci of infantile kala-azar in Italy. Bull. Ent. Res., London 22 1931 pp. 105–113, 2 pls. [Dipt.]

11.—Adler, S. & Theodor, O. Investigations on Mediterranean kala-azar. III. The sandflies of the Mediterranean basin. Distribution and bionomics of sandflies in Catania and district. Proc. Roy. Soc., London B 108 1931 pp. 464–480, 5 figs. [Dipt.]

11a.—Aguayo, C. G. New ants of the genus *Macromischa*. Psyche, Boston 38 1931 pp. 175–183. [Hym.]

12.—Albers, T. Ueber das Vorkommen der Arten der *Hydroecia nictitans* Bkh.-Gruppe im Gebiet der Niederelbe. Int. ent. Z., Guben 25 1931 pp. 47–54, 2 pls. [Lep.]

13.—d'Aldin, A. Corrections et explications apportées aux matériaux pour servir à un catalogue des Macrolépidoptères de département de l'Oise publiés dans Lepidoptera (1), III, fasc. 4, Paris, 1929. Lambillionnea, Brussels 31 1931 pp. 82–83.

14.—d'Aldin [A.] et al. Catalogue des Lépidoptères de la Gironde. Act. Soc. linn. Bordeaux 79 1927 pp. 5–70.

15.—Aldrich, J. M. Notes on the Tachinid genus *Chaetonodexodes*, with one new species. Ann. Mag. Nat. Hist., London (10) 8 1931 pp. 205–207. [Dipt.]

16.—Aldrich, J. M. Collecting flies in the west. Explor. Field-Work Smiths. Inst., Washington 1930 1931 pp. 107–112, 5 figs. [Dipt.]

17.—Aldrich, J. M. Notes on *Hippelates* (Diptera: Chloropidae), with a new Brazilian species. Proc. Ent. Soc. Washington 33 1931 pp. 69–72.

18.—Aldrich, J. M. Notes on Diptera No. 5. Proc. Ent. Soc. Washington 33 1931 pp. 116–121.

19.—Aldrich, J. M. New Acalyptrate Diptera from the Pacific and Oriental Regions. Proc. Hawaii. Ent. Soc. 1929–30, Honolulu 7 1931 pp. 395–399.

20.—Aldrich, J. M. Notes on Francis Walker's types of North American flies of the family Tachinidae. Proc. U.S. Nat. Mus., Washington, D.C. 80 art. 10 no. 2910 1931 16 pp. [Dipt.]

21.—Aldrich, J. M. North American two-winged flies of the genus *Spathimeigenia*, with descriptions of five new species. Proc. U.S. Nat. Mus., Washington, D.C. 80 art. 11 no. 2911 1931 10 pp. [Dipt.]

- 22.—Alexander, C. P. New or little known Tipulidae in the American Museum of Natural History (Diptera). —I. Amer. Mus. Nov., New York no. 491 1931 16 pp. 18 figs.
- 23.—Alexander, C. P. New species of crane-flies from South America. Part V. (Family Tipulidae, Order Diptera.) Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 622-642.
- 24.—Alexander, C. P. New or little-known Tipulidae (Diptera). XLVII-XLIX. Australasian species. Ann. Mag. Nat. Hist., London 1931 (10) 7 pp. 17-36, 4 figs., pp. 153-172; (10) 8 pp. 145-166.
- 25.—Alexander, C. P. Deutsche Limnologische Sunda-Expedition. The crane-flies (Tipulidae, Diptera). Arch. Hydrobiol., Stuttgart Suppl. 9 1931 pp. 135-191, 1 pl. 51 figs.
- 26.—Alexander, C. P. Crane-flies of the Baltic Amber (Diptera). Bernsteinforsch., Berlin 2 1931 pp. 1-135, 168 figs. [Fossil.]
- 27.—Alexander, C. P. A new genus and species of Bibionid Diptera. Bull. Brooklyn Ent. Soc. 26 1931 pp. 7-11, 2 figs.
- 28.—Alexander, C. P. New or insufficiently known crane-flies from the Nearctic region (Tipulidae, Diptera). Part III. Bull. Brooklyn Ent. Soc. 26 1931 pp. 177-184.
- 29.—Alexander, C. P. A list of the crane-flies of Quebec (Diptera). II. Canad. Ent., Orillia 63 1931 pp. 135-147.
- 30.—Alexander, C. P. Records and descriptions of neotropical crane-flies (Tipulidae, Diptera), IX. J. New York Ent. Soc. 39 1931 pp. 109-122.
- 31.—Alexander, C. P. New or little-known Tipulidae from eastern Asia (Diptera), IX. Philipp. J. Sci., Manila 44 1931 pp. 339-368, 2 pls.
- 32.—Alexander, C. P. New or little-known Tipulidae from the Philippines (Diptera), VIII-XII. Philipp. J. Sci., Manila 1931 45 pp. 263-296, 3 pls., 415-445, 3 pls.; 46 pp. 9-38, 3 pls., 269-304, 3 pls., 447-477, 2 pls.
- 33.—Alexander, C. P. The early stages of crane-flies (Diptera). Vict. Nat., Melbourne 47 1931 pp. 195-203.
- 34.—Alexander, W. B. Association of birds' nests with nests of insects in Australia. Proc. Ent. Soc. London 5 1931 pp. 111-114.
- 35.—Alexinschi, A. Fauna macrolepidopterelor Basarabiei de Nord. [In Rumanian.] Mem. Sect. Stiin. Acad. Română, Bucharest (3) 7 1931 pp. 119-183.
- 36.—Alfieri, A. Contribution à l'étude de la faune myrmécologique de l'Egypte. Bull. Soc. ent. Egypte, Cairo 1931 pp. 42-48. [Hym.]
- 37.—Alfieri, A. Les insectes de la tombe de Toutankhamon. Bull. Soc. ent. Egypte, Cairo 1931 pp. 188-189. [Col.]
- 38.—Alfken, J. D. Beitrag zur Kenntnis der *Megachile*-Arten von Japan (Hym., Apid.). Deuts. ent. Z., Berlin 1931 pp. 167-176.
- 39.—Alfken, J. D. Ueber einige Weibchen der *Prosopis variegata*-Gruppe (Hym. Apid.). Deuts. ent. Z., Berlin 1930 1931 pp. 176-178.
- 40.—Alfken, J. D. Ueber das Walliser *Chalicodoma baeticum* (Hym. Apid.). Mitt. deuts. ent. Ges., Berlin 2 1931 pp. 18-19.
- 41.—Alfken, J. D. Entomologische Ergebnisse der Deutsch-Russischen Alai-Pamir-Expedition 1928 (II). I. Hymenoptera IV. Apidae partim. Mitt. zool. Mus. Berlin 16 (1930) 1931 pp. 823-844.
- 42.—Alfken, J. D. Beitrag zur Kenntnis einiger Bienen von Spanien und Nord-Afrika (Hym.). Stettin. ent. Z. 92 1931 pp. 52-57.
- 43.—Alfken, J. D. Ein weiterer Beitrag zur Kenntnis der chilenischen Arten der Bienengattung *Corynura* M. Spin. (Hym.). Stettin. ent. Ztg. 92 1931 pp. 211-218.
- 44.—Alfonsus, E. C. A one-eyed bee (*Apis mellifica*). Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 405-406, 1 pl. [Hym.]
- 45.—Alfonsus, E. C. & Braun, E. Preliminary studies of the internal structure of *Braulia coeca* Nitzsch. Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 561-582, 4 pls. [Dipt.]
- 46.—Allard, H. A. The reactions of some insects to rain. Canad. Ent., Orillia 63 1931 pp. 223-224.

- 47.—Allard, H. A. The photoperiodism of the firefly *Photinus pyralis* Linn.; its relation to the evening twilight and other conditions. Proc. Ent. Soc. Washington 33 1931 pp. 49-58, 1 fig. [Col.]
- Allen, N. see Smith & Allen.
- 48.—d'Almeida, R. F. Beiträge zur Schmetterlings-Fauna Süd-Amerikas. Ent. Z., Frankfurt a. M. 45 1931 pp. 59-61, 3 figs. [Lep.]
- 49.—d'Almeida, R. F. Bemerkungen über einige Schmetterlinge aus Brasilien. Ent. Z., Frankfurt a. M. 45 1931 pp. 232-235, 3 figs. [Lep.]
- 50.—d'Almeida, R. F. Quelques notes pour servir à l'histoire naturelle des lépidoptères américains. Lambillionea, Brussels 31 1931 pp. 83-88.
- 51.—Alpatov, W. W. Some data on variation of bees in the European part of U.S.S.R. (Russia) and Caucasus. [In Russian with English summary.] Oput. Paseka, [? Tula] 1930 pp. 321-327, 5 figs. [Hym.]
- 52.—Alpatov, W. W. & Bachvalova, T. T. Some data on variation of eggs in some insects (*Anopheles maculipennis* and *Bombyx mori*). [In Russian with English summary.] Rev. zool. russe, Moscow 10 no. 4 1930 pp. 32-44, 2 graphs.
- 53.—Alpatov, V. V. & Rozhdestvenskaya, V. A. Ueber den Einfluss der ultravioletten Strahlen auf die Entwicklungsdauer der Eier des Seidenspinners (*Bombyx mori* L.). [In Russian.] Arb. Moskauer ForschungsSta. Seide u. Seidenraupenzucht 4 1930 no. 1 pp. 243-246. [Lep.]
- Alpatov, W. W. see Kosmina, Alpatov & Reznichenko.
- 54.—Amsel, H. G. Die Mikrolepidopterenfauna der Mark Brandenburg nach dem heutigen Stande unserer Kenntnisse. Iris, Dresden 45 1931 pp. 147-201.
- 55.—Amsel, H. G. & Hering, M. Beitrag zur Kenntnis der Minenfauna Palästinas. Deuts. ent. Z., Berlin 1931 pp. 113-152, 2 pls. 5 figs.
- 56.—Ancona, L. Los chilocuciles o gusanitos de la sal de Oaxaca. An. Inst. Biol. Univ. Mexico 2 1931 pp. 265-277, 14 figs. [Lep.]
- 57.—Ander, K. Fjärilfynd från Oland. [In Swedish.] Ent. Tidskr., Stockholm 51 1930 pp. 140-141. [Lep.]
- 58.—Ander, K. Bidrag till kännedomen om Bornholms orthopterfauna. [With German summary.] Ent. Medd., Copenhagen 17 1931 pp. 348-365.
- 59.—Ander, K. Odonata från Bornholm. Ent. Medd., Copenhagen 17 1931 pp. 366-368.
- 60.—Ander, K. Ueber die Orthopteren-Fauna Schwedens. Konowia, Vienna 10 1931 pp. 40-46.
- 61.—Ander, K. Ueber das angebliche Vorkommen von *Anax formosus* Lind. in Schweden nebst Verzeichnis der schwedischen Odonaten. Z. wiss. InsektBiol., Berlin 26 1931 pp. 81-83.
- Ander, K. see Sjöstedt et al.
- 62.—Andersen, K. T. Experimentelle Untersuchungen über die Luftfeuchtigkeit als Faktor der Embryonalentwicklung der Insekten. Arch. zool. ital., Torino 16 1931 pp. 472-479, 2 figs.
- 63.—Andersen, K. T. Der linierte Graurüssler oder Blattrandkäfer, *Sitona lineata* L. Monog. Pflanzenschutz, Berlin no. 6 1931 88 pp. 40 figs. [Col.]
- 64.—Andres, A. Catalogue of the Egyptian Tenebrionidae. Bull. Soc. ent. Egypte, Cairo 1931 pp. 74-125. [Col.]
- 65.—Andres, A. Beitrag zur Kenntnis ägyptischer Bostrychiden. Z. angew. Ent., Berlin 18 1931 pp. 691-697, 1 pl. 4 figs. [Col.]
- 66.—Andrewes, H. E. Catalogue of Indian Insects. Part 18—Carabidae. Calcutta, Govt. India Centr. Pubn. Branch 1930 xxii + 369 pp. [Col.]
- 67.—Andrewes, H. E. Papers on Oriental Carabidae.—XXV. Ann. Mag. Nat. Hist., London (10) 7 1931 pp. 513-528, 2 figs. [Col.]
- 68.—Andrewes, H. E. On the Carabidae of Mount Kinabalu. J.F.M.S. Mus., Kuala Lumpur 16 1931 pp. 431-485, 31 figs. [Col.]
- 69.—Andrewes, H. E. Coleoptera-Carabidae of the Juan Fernandez Islands. Nat. Hist. Juan Fernandez and Easter Island, Uppsala 3 (Zool.) 1931 pp. 629-637, 5 figs.

- 70.—Andrewes, H. E. On some new species of Carabidae from Sumatra contained in the collection of the Leyden Museum. *Zool. Meded., Leiden* 13 1930 pp. 193–203. [Col.]
- 71.—Andrewes, H. E. Some keys to Sumatran Carabidae together with descriptions of further new species. *Zool. Meded., Leiden* 14 1931 pp. 54–78. [Col.]
- 72.—Andrewes, H. L. Moth-trap experiences in Dorset. *Entomologist, London* 64 1931 pp. 86–90, 104–106, 3 figs.
- 73.—Andrews, H. W. British Dipterological literature. An annotated list of systematic monographs and books, published in English, dealing with British Diptera. *Ent. Rec., London* 43 1931 sep. pp. 1–7.
- 74.—Antoine, M. Etudes des espèces appartenant au genre *Litoborus* Mulsant et Rey (Col. Tenebrionidae). *Bull. Soc. Sci. nat. Maroc, Rabat* 10 (1930) 1931 pp. 175–209, 43 figs.
- 75.—Antoine, M. Carabiques recueillis dans le massif du Likoumt-Toubkal (Grand Atlas marocain). *Bull. Soc. Sci. nat. Maroc, Rabat* 11 1931 pp. 12–23. [Col.]
- 76.—Anuchin, A. V. Veränderlichkeit und Vererblichkeit der Kokone von *Bombyx mori*. [In Russian with German summary.] *Arb. Moskau. ForschSta. Seide u. Seidenraupenzucht* 1 1926 no. 3 62 pp. 33 figs. [Lep.]
- 77.—Anuchin, A. V. Ueber die Zucht der Hybriden der ersten Generation bei *Bombyx mori* L. [In Russian.] *Arb. Moskau. ForschSta. Seide u. Seidenraupenzucht* 4 1930 no. 1 pp. 1–40. [Lep.]
- 78.—Apfelbeck, V. Neue *Anaspis*-Arten aus Jugoslawien (Coleopt., Mordellidae). *Ent. Anz., Vienna* 11 1931 pp. 37–39.
- 79.—Apriamow, G. Zur Biologie der *Anopheles maculipennis* Meig. und *A. bifurcatus* L. im Rayon der Stadt Wladikawkas. [In Russian with German summary.] *Trav. Sta. biol. Caucase Nord, Vladicaucase* 3 1930 pp. 145–154. [Dipt.]
- 80.—Aptel, E. Notes diverses sur les Hyménoptères. *Bull. Soc. Sci. nat. Nîmes* 46 1928–29 pp. 109–113.
- 81.—Aptel, E. Etude sur les nidifications de l'*Halictus malachurus* K. (forma *longulus*) génération d'été. *Bull. Soc. ent. Fr., Paris* 1931 pp. 210–222. [Hym.]
- 82.—Aptel, E. Liste de proies nouvellement rencontrées dans les nidifications de *Cerceris rubida* Jurine. *Bull. Soc. ent. Fr., Paris* 1931 p. 223. [Hym.]
- 83.—Arakawa, Y. On the blood-sucking and digestion of the clothes louse. [In Japanese.] *Insect Wld., Gifu* 35 1931 pp. 265–269, 302–306. [Anoplura.]
- 84.—Arangua, E. V. Contribuciones al estudio de los Cicindelidae. VII. Notas zoogeográficas sobre algunos Cicindelidae americanos. *Rev. chil. Hist. nat., Santiago de Chile* 34 1930 pp. 152–154. [Col.]
- 85.—Archangelskii, A. New species of scale-insects (Coccidae) from Central Asia. [In Russian with English descriptions.] *Plant Prot., Leningrad* 7 1931 pp. 69–85, 14 figs. [Hem.]
- 86.—Arens, M. E. On the native country of the honey-bee and allied species and on their distribution in the world. [In Russian.] *Opuit. Paseka, [? Tula]* 1930 pp. 294–308. [Hym.]
- 87.—Arndt, C. H. & Dozier, H. L. Le criquet haïtien du caféier. *Bull. Serv. tech. Dépt. Agric. Haiti, Port-au-Prince* 26 1931 16 pp. 6 figs. [Orth.]
- 88.—Arndt, C. H. & Dozier, H. L. The Haitian coffee-tree cricket. *J. Dept. Agric. Puerto Rico* 15 1931 pp. 325–335, 6 figs. [Orth.]
- 89.—Arndt, W. Die Copeognathen des arktischen Gebietes. *Fauna Arctica, Jena* 6 1931 pp. 59–66. [Psocopt.]
- 90.—Arndt, W. Zur Frage der Verdaubarkeit der Badeschammgerüstsubstanz. *Zool. Anz., Leipzig* 93 1931 pp. 199–207, 7 figs. [Col.]
- 91.—Arnhart, L. Ein einfachster mikrophotographischer Reiseapparat. *Konowia, Vienna* 10 1931 pp. 286–289, 4 figs.
- 92.—Arnold, G. The Sphegidae of South Africa. Part XV. *Ann. Transvaal Mus., Pretoria* 14 1931 pp. 135–220, 51 figs. [Hym.]

- 93.—**Arnoldi, K. V.** Sur les représentants de deux tribus des Ponerinae (Hymenoptera) nouvelles pour la faune de l'U.R.S.S. [In Russian.] *Rev. russe Ent.*, Leningrad **24** 1930 pp. 156–161, 4 figs.
- 94.—**Arrow, G. J.** The fauna of British India. Coleoptera Lamellicornia Part III (Coprinae). London, Taylor & Francis 1931 xii + 428 pp. 13 pls. 1 map.
- 95.—**Arrow, G. J.** The Coleopterous genus *Trichillum* (Copridae) with a key to the species. *Ann. Mag. Nat. Hist.*, London (10) **8** 1931 pp. 609–611.
- 96.—**Arrow, G. J.** Two new species of Lamellicorn beetles belonging to the genus *Peltonotus*. *Ann. Mag. Nat. Hist.*, London (10) **8** 1931 pp. 611–612.
- 97.—**Artobolevskii, G.** Quelques observations oecologiques sur les Odonates de Teberda (Caucase du Nord). [In Russian with French summary.] *Trav. Sta. biol. Caucase Nord, Vladicaucase* **3** 1930 pp. 33–43.
- 98.—**Artobolevskii, G.** Les Odonates de la Crimée. [In Russian.] *Bull. Soc. Nat. Crimée, Simferopol* **11** 1929 pp. 139–150, 1 fig.
- 99.—**Aschner, M.** Die Bakterienflora der Pupiparen (Diptera). Eine Symbiosestudie an Blutsaugenden Insekten. *Z. Morph. Oekol. Tiere*, Berlin **20** 1931 pp. 368–401, 5 pls. 5 figs.
- 100.—**Ashbel, R.** Produzione di ammoniaca nelle uova di bachi da seta (*Bombyx mori*) e di ricci di mare (*Paracentrotus lividus* e *Sphaerechinus granularis*). *Pubb. Staz. zool. Napoli* **11** 1931 pp. 204–217. [Lep.]
- 101.—**Atzler, M.** Untersuchungen über den morphologischen und physiologischen Farbwechsel von *Dixippus* (*Carausius*) *morosus*. *Z. vergl. Physiol.*, Berlin **13** 1930 pp. 505–533, 7 figs. [Orth.]
- 102.—**Aubertin, D.** Note on the identity of two species of the genus *Calliphora* (Diptera). *Ann. Mag. Nat. Hist.*, London (10) **8** 1931 pp. 615–616, 2 figs.
- 103.—**Aubertin, D.** Revision of the genus *Hemipyrellia* Tns. (Diptera, Calliphoridae). *Proc. Zool. Soc. London* 1931 pp. 497–509, 8 figs.
- 104.—**Audcent, H.** Bristol insect fauna. Diptera (Part III). *Proc. Bristol Nat. Soc.* (4) **7** (1930) 1931 pp. 197–207.
- 105.—**Aue, A. U. E.** Entomologisches Allerlei. XII. *Ent. Anz.*, Vienna **11** 1931 pp. 15–18, 29–32, 49–52, 145–148, 165–168, 185–188, 218–220, 253–256, 268–270. [Lep.]
- 106.—**Aue, A. U. E.** Handbuch iv. Spinner. Beilage in *Ent. Z.*, Frankfurt a.M. **44** 1930 pp. 141–144, 1931, pp. 145–152, **45** pp. 161–164. [Lep.]
- 107.—**Aurivillius, C.** Coleoptera-Curculionidae von Juan Fernandez und der Oster-Insel. *Nat. Hist. Juan Fernandez und Easter Island, Uppsala* **3** (Zool.) 1931 pp. 461–479, 2 pls.
- 108.—**Austen, E. E.** A new species of warble-fly (Diptera—Family Tachinidae, subfamily Hypoderminae, genus *Hypoderma*), which attacks goats in Cyprus. *Bull. Ent. Res.*, London **22** 1931 pp. 423–429, 5 figs.
- 109.—**Austen, E. E.** The present state of the national collection of insects. *Entomologist*, London **64** 1931 pp. 241–242.
- 110.—**Austin, M. D.** Observations on the hibernation and spring oviposition of *Lygus pratensis* Linn. *Ent. Mon. Mag.*, London **67** 1931 pp. 149–152, 3 figs. [Hem.]
- 111.—**Austin, M. D.** A contribution to the biology of the apple Capsid (*Plesiocoris rugicollis* Fall.) and the common green Capsid (*Lygus pabulinus* Linn.). *J. S.-E. Agric. Coll.*, Wye, Kent no. **28** 1931 pp. 153–169, 8 figs. [Hem.]
- Autuori, M.** see Pinto da Fonseca & Autuori.
- 112.—**Avé Lallemand, G. F. H., Soerono, M. & Soekaria, M. S.** Experiments about the flying radius of some *Anopheles*. *Meded. Dienst Volksgezondh. Ned.-Ind.*, Batavia, Foreign edn., **20** 1931 pp. 12–25, 1 map 1 graph. [Dipt.]
- Ayyar, Ramakrishna T. V.** see Ramakrishna Ayyar.
- 113.—**Bachmann, M.** Insektenbesuche auf Rosen. *Ent. Z.*, Frankfurt-a.-M. 1931 **44** pp. 364–366; **45** pp. 9–11, 22–26, 38–45.
- Bachvalova, T. T.** see Alpatov & Bachvalova.

114.—Badonnel, A. Contribution à l'étude de la faune du Mozambique. Voyage de M. P. Lesne (1928-1929). 4e note.—Copéognathes. Ann. Sci. nat. (Zool.) Paris (10) **14** 1931 pp. 229-260, 35 figs. [Psocopt.]

115.—Badonnel, A. Copéognathes de France. Bull. Soc. zool. Fr., Paris **56** 1931 98-112, 13 figs., 250-257, 5 figs., 341-347, 5 figs. [Psocopt.]

116.—Bagnall, R. S. Some insects of the buckthorn. London Naturalist **1930** 1931 pp. 75-76.

117.—Bailey, S. F. The use of transparent cellulose films in life-history studies. J. Econ. Ent., Geneva, N.Y. **24** 1931 pp. 898-901.

118.—Baisas, F. E. The *barbirostris-hyrcanus* group of the Philippine *Anopheles*. Philipp. J. Sci., Manila **44** 1931 pp. 425-448, 3 pls. 7 figs. [Dipt.]

119.—Baker, A. D. A study of the male genitalia of Canadian species of Pentatomidae. Canad. J. Res., Ottawa **4** 1931 pp. 148-179, 21 figs. [Hem.]

120.—Baker, E. C. S. Attacks of birds upon butterflies observed in the Oriental region. Proc. Ent. Soc. London **6** 1931 pp. 33-34.

121.—Baker, E. C. S. Nesting associations between birds and wasps, ants or termites, in the Oriental region. Proc. Ent. Soc. London **6** 1931 pp. 34-37.

122.—Bakker, H. A. Neuropterologische aanteekeningen I. Ent. Ber., Putten **8** 1931 pp. 246-248.

123.—Balachowsky, A. Contribution à la faune des Coccides de France (5e note). Faune de Corse. Bull. Soc. ent. Fr., Paris **1931** pp. 96-102. [Hem.]

Bald, J. G. *see* Davidson & Bald.

124.—Balduf, W. V. The oviposition habits of *Feltia subgothica* Haw. (Noc-tuidae, Lep.). Proc. Ent. Soc. Wash-ington **33** 1931 pp. 81-88.

125.—Balduf, W. V. Carnivorous moths and butterflies. Trans. Illinois Acad. Sci., Springfield **24** 1931 pp. 156-164. [Lep.]

126.—Balfour, C. E. & Carmichael, L. The light reactions of the meal worm (*Tenebrio molitor* Linn.). Amer. J. Psychol., Ithaca **40** 1928 pp. 576-584. [Col.]

127.—Balfour-Browne, F. The aquatic Coleoptera of the Isle of Wight. Ent. Mon. Mag., London **67** 1931 pp. 1-10, 1 fig.

128.—Balfour-Browne, F. An abnormal aedeagus in *Deronectes elegans* Panz. Ent. Mon. Mag., London **67** 1931 pp. 38-40, 57, 3 figs. [Col.]

129.—Balfour-Browne, F. A plea for uniformity in the method of recording insect captures. Ent. Mon. Mag., London **67** 1931 pp. 183-193.

Balkaschina, E. J. *see* Romaschoff & Balkaschina.

130.—Ball, A. Note descriptive concernant un *Ectopsocus* des Etats-Unis (Psocoptera-Peripsocidae). Mém. Soc. ent. Belg., Brussels **23** 1931 pp. 188-196, 1 pl.

131.—Ball, E. D. Some new genera and species of leafhoppers related to *Mesamia* Ball. Bull. Brooklyn Ent. Soc. **26** 1931 pp. 91-95. [Hem.]

132.—Ball, E. D. Some new North American genera and species in the group formerly called *Platymetopius* (Rhynchota, Homoptera). Canad. Ent., Orillia **63** 1931 pp. 216-222, 224-228.

133.—Ball, E. D. Some new genera and species of leafhoppers related to *Eutettix* Van Duzee (Rhynchota, Homoptera). Florida Ent., Gainesville **15** 1931 pp. 1-6.

134.—Ball, E. D. Some new leafhoppers of the genus *Aligia* (Rhynchota, Homoptera). Pan-Pacific Ent., San Francisco **7** 1931 pp. 119-121.

135.—Balthasar, V. Sechs neue *Trox*-Arten aus dem Ussurigebiet und Transbaikalien. Ent. Bl., Berlin **27** 1931 pp. 128-134.

136.—Balthasar, V. Achter Beitrag zur Kenntnis der Scarabaeidae des palaearktischen Faunagebietes. Ent. NachrBl., Troppau **5** 1931 pp. 24-25. [Col.]

137.—Balthasar, V. Elfter Beitrag zur Kenntnis der Scarabaeidae des palaearktischen Faunagebietes. Wien. ent. Ztg. **48** 1931 pp. 57-60. [Col.]

138.—Bandermann, F. Die wunderbare Farbenpracht der Raupe von *Attacus jorulla*. Int. ent. Z., Guben **25** 1931 pp. 145-146. [Lep.]

139.—Banks, N. Psammocharidae insects from Yucatan. Bull. Brooklyn Ent. Soc. 26 1931 pp. 131-134. [Hym.]

140.—Banks, N. Some Neuropteroid insects from the Malay Peninsula. J. F.M.S. Mus., Kuala Lumpur 16 1931 pp. 377-404, 3 pls.

141.—Banks, N. Some Neuropteroid insects from North Borneo, particularly from Mt. Kinabalu, 13,455 ft. J. F.M.S. Mus., Kuala Lumpur 16 1931 pp. 411-426, 2 pls.

142.—Banks, N. On some Psocidae from the Hawaiian Islands. Proc. Hawaii. Ent. Soc. 1929-30, Honolulu 7 1931 pp. 437-441, 3 pls. [Psocopt.]

143.—Banks, N. Some oriental Neuropteroid insects. Psyche, Boston 38 1931 pp. 56-70, 1 pl.

144.—Banzhaf, W. Zur Fauna der Greifswalder Oie. Abh. Ber. pommerseh. Naturf. Ges., Stettin 11 1931 pp. 190-236, 11 figs. [Insects pp. 199-222.]

145.—Baranoff, N. Studien an pathogenen und parasitischen Insekten III. Beitrag zur Kenntnis der Raupenfliegengattung *Carcelia* R.D. Inst. Hyg. Schule Volksgesundheit Zagreb, Arb. parasit. Abt. no. 3 1931 45 pp. 7 figs. [Dipt.]

146.—Baranoff, N. Ueber einen neuen Fundort von *Blaesoxipha arenicola* Rohden, nebst einer Beschreibung des Weibchens (Dipt., Sarcoph.). Ent. NachrBl., Troppau 5 1931 pp. 77-78.

147.—Baranoff, N. Neue orientalische Sarcophaginae (Dipt.). Konowia, Vienna 10 1931 pp. 110-115, 6 figs.

148.—Baranoff, N. Ueber Raupenfliegen, welche durch die Farbe des Abdomens *Exorista confinis* Fall. ähnlich sind. Wien. ent. Ztg. 48 1931 pp. 117-124, 4 figs. [Dipt.]

149.—Barattini, L. P. Las especies uruguayas de la subfamilia Cicindelinae. [With French summary.] An. Fac. Med. Montevideo 14 1929 pp. 1208-1224, 2 pls. [Col.]

150.—Barber, H. G. A new *Oncerothachus* from Cuba (Hemiptera; Reduviidae). Bull. Brooklyn Ent. Soc. 26 1931 pp. 185-186.

151.—Barber, H. S. Traps for cave-inhabiting insects. J. Elisha Mitchell Sci. Soc., Chapel Hill 46 1931 pp. 259-266, 1 pl. 1 fig.

152.—Barbey, A. La forêt incendiée, champ d'activité des insectes. Rev. suisse Zool., Geneva 38 1931 pp. 393-400, 2 pls.

153.—Bare, C. O. A *Buenoa* of south-west United States and Mexico (Hemiptera). Pan-Pacific Ent., San Francisco 7 1931 pp. 115-118, 8 figs.

154.—Barnard, K. H. The Cape alder-flies (Neuroptera, Megaloptera). Trans. Roy. Soc. S. Afr., Cape Town 19 1931 pp. 169-184, 12 figs.

155.—Barnes, H. F. Gall Midges (Cecidomyiidae) whose larvae prevent seed production in grasses (Gramineae). Bull. Ent. Res., London 22 1931 pp. 199-202. [Dipt.]

156.—Barnes, H. F. A new predacious gall midge (Dipt., Cecidomyiidae). Bull. Ent. Res., London 22 1931 pp. 205-207, 2 figs.

157.—Barnes, H. F. The sex ratio at the time of emergence and the occurrence of unisexual families in the gall midges (Cecidomyiidae, Diptera). J. Genet., Cambridge 24 1931 pp. 225-234.

158.—Barnes, T. C. Kinesthetic sense of insects. Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 824-826.

159.—Barnes, T. C. Body posture and geotropic response in the ant *Aphaenogaster fulva*. J. Gen. Psychology, Worcester Mass. 3 1930 pp. 540-547, 4 figs. [Hym.]

160.—Barnes, T. C. & Skinner, B. F. The progressive increase in the geotropic response of the ant *Aphaenogaster*. J. Gen. Psychology, Worcester, Mass. 4 1930 pp. 102-112, 6 figs. [Hym.]

Barovskaya, T. Shchegoleva—see Shchegoleva-Barovskaya.

161.—Barovskii, V. Le premier représentant du genre *Plateros* Waterh. dans notre faune (Coleoptera, Lycidae). [Latin description.] C.R. Acad. Sci. U.R.S.S., Leningrad (A) 1931 pp. 160-161.

162.—Barraud, P. J. The early stages of some Indian mosquitoes: *Megarhinus*. Ind. J. Med. Res., Calcutta 18 1931 pp. 1127-1132, 3 pls. [Dipt.]

163.—Barraud, P. J. Notes on some Indian mosquitoes of the subgenus *Stegomyia*, with descriptions of new species. Ind. J. Med. Res., Calcutta 19 1931 pp. 221–227, 1 pl. [Dipt.]

164.—Barraud, P. J. Descriptions of eight new species of Indian Culicine mosquitoes. Ind. J. Med. Res., Calcutta 19 1931 pp. 609–616, 1 pl. [Dipt.]

165.—Barraud, P. J. Notes on some entomological technique for the malarologist. Rec. Malaria Surv. India, Calcutta 2 1931 pp. 157–160. [Dipt.]

166.—Barraud, P. J. & Christophers, Sir S. R. On a collection of Anopheline and Culicine mosquitoes from Siam. Rec. Malaria Surv. India, Calcutta 2 1931 pp. 269–285. [Dipt.]

Barraud, P. J. *see* Christophers & Barraud.

167.—Barrett, R. E. New species of *Aphodius* and *Malachius* from California (Coleoptera). Pan-Pacific Ent., San Francisco 7 1931 pp. 101–102.

168.—Bartenef, A. N. Materialien zur Kenntnis der Odonaten-Fauna von West-Kaukasus. [In Russian with German summary.] Arb. Nord.-Kauk. Assoc. wiss. Inst., Rostov-on-Don 72 1930 Lief. 14 pp. 1–138, 3 pls.

169.—Bartenef, A. N. Versuch einer biologischen Gruppierung der Odonaten des europäischen Teiles der Sowietunion. [In Russian with German summary.] Rev. zool. russe, Moscow 10 no. 4 1930 pp. 57–131.

170.—Bartenev, A. N. Die paläarktischen Arten der Untergattung *Cordulegaster*. [In Russian with German summary.] Trav. Sta. biol. Caucase Nord, Vladicaucase 3 1930 pp. 1–32, 4 figs. [Odon.]

171.—Bartenev, A. N. Ueber die Odonatensammlungen der Nordkaukasischen Hydrobiologischen Station in 1928 in der Kabarda und in Balkarien. [In Russian.] Trav. Sta. biol. Caucase Nord, Vladicaucase 3 1930 pp. 85–86.

172.—Bartenef, A. Ueber die geographische Verbreitung von *Pantala flavescens* Fabr. (Odonata, Libellulinae). Zool. Jahrb., Jena Abt. Syst. 60 1931 pp. 471–488, 1 map.

173.—Bartenef, A. Die geographisch-biologische Charakteristik und die Artenpaarungen der Gattung *Symptetrum* Newm. 1833. (Odonata, Libellulinae.) Zool. Jahrb., Jena, Abt. Syst. 61 1931 pp. 347–360.

174.—Barth, L. G. The effect of X-rays on the spermatozoa of *Drosophila*. Physiol. Zool., Chicago 2 1929 pp. 172–180. [Dipt.]

175.—Barthe, E. Tableaux analytiques illustrés des Coléoptères de la faune franco-rhénane (contd.). Misc. ent., Castanet-Tolosan 33 1931 sep. pp. 371–386, 11 figs.

176.—Barthe, E. & Tarel, R. Tableaux analytiques des Coléoptères de la faune franco-rhénane. Famille I Cicindelidae (Deuxième édition). Misc. ent., Castanet-Tolosan 33 1931 sep. pp. 1–30, 23 figs.

Barthmeyer, H. *see* Schmalfuss & Barthmeyer.

177.—Basilewsky, P. de. Additions et rectifications aux Carabidae du "Coleopterorum Catalogus" de M. E. Csiki. Bull. Ann. Soc. ent. Belg., Brussels 71 1931 pp. 95–97, 145–149.

178.—Bastin, F. Liste des Ephydridae et Canaceidae de Belgique. Mém. Soc. ent. Belg., Brussels 23 1931 pp. 177–182. [Dipt.]

179.—Batá, L. Versuch einer faunistischen Bearbeitung der Makrolepidopteren des südlichsten Böhmens [contd.]. Z. öst. EntVer., Vienna 16 1931 pp. 6–7, 14–16.

180.—Bataillon, E. & Su, T. Activation, élimination d'un globule polaire et polyvoltisme chez le Bombyx du mûrier. C.R. Acad. Sci. Fr., Paris 193 1931 pp. 380–383. [Lep.]

181.—Bataillon, E. & Su, T. Les trois types de mitoses caractéristiques du premier développement chez l'œuf de *Bombyx* fécondé ou parthénogénésique. C.R. Acad. Sci. Fr., Paris 193 1931 pp. 415–417. [Lep.]

182.—Bauer, H. Die Chromosomen von *Tipula paludosa* Meig. in Eibildung und Spermatogenese. Z. Zellforsch. Mikr. Anat., Berlin 14 1931 pp. 138–193, 28 figs. [Dipt.]

183.—Baumgartner, W. J. Spermatogenesis in the crickets. Anat. Rec., Philadelphia 51 1931 suppl. p. 70. [Orth.]

184.—Baumgartner, W. J. & Payne, M. A. "Intravital" technic used in studies on the living cells of grasshoppers. J. Exp. Zool., Philadelphia 59 1931 pp. 359-394, 4 pls. 1 fig. [Orth.]

185.—Bayford, E. G. *Cis pygmaeus* Marsh. and other species. Ent. Mon. Mag., London 67 1931 pp. 17-18. [Col.]

186.—Beall, G. Notes on the termites of British Columbia. Proc. Ent. Soc. Br. Columbia, Vancouver 28 1931 pp. 33-35. [Isopt.]

187.—Beamer, R. H. Some *Erythroneura* (grape leaf-hoppers) of the *maculata* group (Homoptera, Cicadellidae). Canad. Ent., Orillia 63 1931 pp. 127-135, 240-244, 268-270, 285-289.

188.—Beamer, R. H. Notes on the 17-year Cicada in Kansas. J. Kansas Ent. Soc., McPherson 4 1931 pp. 53-58, 1 fig. [Hem.]

189.—Beams, H. W. & King, R. L. The architecture of the parietal cells of the salivary glands of the grasshopper. Anat. Rec., Philadelphia 51 1931 suppl. p. 69. [Orth.]

190.—Beams, H. W. & King, R. L. Cytoplasmic structures in the ganglion cells of certain Orthoptera, with special reference to the Golgi bodies, mitochondria, "vacuome," intracellular septa (trophospongium) and neurofibrillae. Anat. Rec., Philadelphia 51 1931 suppl. pp. 71-72.

191.—Beare, Sir T. H. The new catalogue of Coleoptera for the British Isles. Ent. Mon. Mag., London 67 1931 pp. 10-11.

192.—Becker, E. Zur Frage von der Homologie des männlichen und weiblichen äusseren Genitalapparates der Hymenopteren. [In Russian with German summary.] Rev. zool. russe, Moscow 10 no. 4 1930 pp. 18-31, 3 figs.

193.—Becker, F. Entomologisches von den Azoren und Canarischen Inseln. Int. ent. Z., Guben 24 1931 pp. 447-450.

194.—Becker, T. et al. Dipteren aus Südarabien und von der Insel Sokotra. Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931 pp. 131-160, 5 figs.

195.—Becking, L. B. & Chamberlin, J. C. A note on the refractive index of chitin. Proc. Soc. Exptl. Biol. Med., New York 22 1925 p. 256.

196.—Beckwith, T. D. & Rose, E. J. Cellulose digestion by organisms from the termite gut. Proc. Soc. Exptl. Biol. Med., New York 27 1929 pp. 4-6. [Isopt.]

197.—Bedford, G. A. H. Descriptions of three new species of *Tetraphthalmus* (Mallophaga) found on pelicans. Parasitology, Cambridge 23 1931 pp. 236-242, 6 figs.

198.—Bedford, G. A. H. New genera and species of Mallophaga. Rep. Vet. Res. S. Afr., Pretoria 17 1931 pp. 283-297, 16 figs.

199.—Bedford, H. W. A description of the methods adopted in the Sudan in the organisation of the insect collection and the systematic compilation of records. Bull. Wellcome Trop. Res. Lab. Khartoum Ent. Sect. no. 32 1930 21 pp. 3 pls. 1 map.

200.—Beer, S. Sulla fluorescenza presentata dai bozzoli e dalla seta sotto l'azione dei raggi ultravioletti. Boll. Lab. Zool. Bachicoltura Milano 2 1931 pp. 150-190. [Lep.]

201.—Beer, S. Sulla fluorescenza presentata dalla larva del *Bombyx mori* sotto l'azione della luce di Wood. Boll. Lab. Zool. Bachicoltura Milano 2 1931 pp. 191-194. [Lep.]

202.—Beer, S. Nuove osservazioni sulla fluorescenza presentata dalle larve del *Bombyx mori* sotto l'azione della luce di Wood. Boll. Lab. Zool. Bachicoltura Milano 2 1931 pp. 195-206. [Lep.]

203.—Beer, S. Ricerche sull'applicazione dei raggi X alla ginecrinata dei bozzoli e allo studio della crisalide e della farfalla del *Bombyx mori* L. Boll. Lab. Zool. Bachicoltura Milano 2 1931 pp. 207-241, 5 pls. [Lep.]

204.—Beeson, C. F. C. The life-history and control of *Celosterna scabrator* F. (Col., Cerambycidae). Ind. For. Rec., Calcutta 16 1931 pp. 279-294, 2 pls.

205.—Behling, H. Die Schmetterlingsfauna in Frankfurts Umgebung in den Jahren 1880-1910. Int. ent. Z., Guben 25 1931 pp. 114-116. [Lep.]

206.—Bel-Bienko, G. A monograph of the genus *Bryodema* Fieb. (Orthoptera, Acrididae) and its nearest allies. Annu. Mus. zool. Acad. Leningrad 31 1930 pp. 71-127, 3 pls. 1 fig.

207.—**Bei-Bienko**, G. I. The zonal and ecological distribution of Acrididae in West Siberian and Zaisan plains. [In Russian with English summary.] Bull. Plant Prot., Ent., Leningrad 1 1930 pp. 51–90. [Orth.]

208.—**Bei-Bienko**, G. Ya. Studies on the Dermaptera and Orthoptera of the district Omsk, West Siberia. [In Russian with English summary.] Bull. Plant Prot., Ent., Leningrad 1 1930 pp. 161–177.

209.—**Bei-Bienko**, G. Orthoptera of the Teniso-Kurgaldjine zoological expedition. [In Russian.] Izv. W. Siberian Sect. Russ. Geogr. Soc., Omsk 7 1930 pp. 160–161.

210.—**Bei-Bienko**, G. Material concerning the Orthoptera of the Semipalatinsk district. [In Russian with English summary.] Izv. W. Siberian Sect. Russ. Geogr. Soc., Omsk 7 1930 pp. 189–214, 4 figs.

211.—**Bei-Bienko**, G. Some new or interesting Orthoptera from Southern Caucasia. Bol. Soc. esp. Hist. nat., Madrid 31 1931 pp. 221–228, 7 figs.

212.—**Bei-Bienko**, G. On some Orthoptera from northern Korea. Bol. Soc. esp. Hist. nat., Madrid 31 1931 pp. 673–678, 2 figs.

213.—**Beier**, M. Three new species of Mantidae (Orthoptera). Ann. Mag. Nat. Hist., London (10) 7 1931 pp. 359–361.

214.—**Beier**, M. Zoologische Forschungsreise nach den Jonischen Inseln und dem Peloponnes. XV. Teil. Staphylinidae (Coleoptera). Bearbeitet von Dr. Otto Scheerpeltz. SitzBer. Akad. Wiss. Wien Abt. I 140 1931 pp. 359–460, 3 pls. 10 figs.

215.—**Beijerinck**, W. Over *Eurycercus glacialis* Lillj. en andere arctische Levensvormen in de Plassen der Dwingeloo'sche Heide. Levende Natuur, Amsterdam 36 1931 pp. 238–248, 7 figs. [Col.]

216.—**Belanovskii**, J. D. Beiträge zur Tachinenfauna der Gouvernements Kyjiw. Trav. Mus. zool. Kiev no. 10 1931 pp. 17–42, 2 figs. [Dipt.]

Belanovskii see Zverozomb-Zubovskii.

217.—**Beling**, I. Ueber das Zeitgedächtnis der Bienen. Z. vergl. Physiol., Berlin 9 1929 pp. 259–338, 28 tables 6 figs. [Hym.]

218.—**Bell**, E. L. New species of *Yanguna*: Lepidoptera, Rhopalocera. Entomologist, London 64 1931 pp. 233–236.

219.—**Bell**, E. L. A list of Hesperidae from Barro Colorado Island, Canal Zone, and adjacent Panama, with a description of a new species. J. New York Ent. Soc. 39 1931 pp. 81–108, 1 fig. [Lep.]

220.—**Bell**, E. L. Studies on the Pyrrhopyginae, with descriptions of several new species (Lepidoptera, Rhopalocera, Hesperidae). J. New York Ent. Soc. 39 1931 pp. 417–480, 6 pls.

221.—**Bell**, E. L. Descriptions of new Hesperidae from Trinidad, B.W.I., and South America (Lepidoptera-Rhopalocera). J. New York Ent. Soc. 39 1931 pp. 523–530, 1 pl.

Bell, E. L. see Lindsey, Bell & Williams; Williams & Bell.

222.—**Benander**, P. Olanska fjärlar. Ent. Tidskr., Stockholm 51 1930 pp. 267–269. [Lep.]

223.—**Benander**, P. För Sveriges fauna nya Lepidoptera. Ent. Tidskr., Stockholm 51 1930 pp. 269–270.

224.—**Benander**, P. Zur Biologie einiger Kleinschmetterlinge. IV. Z. wiss. InsektBiol., Berlin 26 1931 pp. 48–54, 2 figs. [Lep.]

225.—**Benazzi**, M. Sui rapporti che intercedono tra arti larvali ed arti imaginali negli Insetti olometaboli. Arch. zool. ital., Torino 16 1931 pp. 468–471.

Bengtsson, S. see Sjöstedt et al.

226.—**Benick**, L. Zur Biologie der Käferfamilie Helodidae. (Mit einer Uebersicht der Baumhöhlenfauna von Prof. Dr. A. Thienemann, Plön.) Mitt. geogr. Ges. Lübeck (2) 29 1924 pp. 45–75, 1 pl. [Col.]

227.—**Benick**, L. Die Käfer der Oldesloer Salzstellen. Mitt. geogr. Ges. Naturh. Mus. Lübeck (2) 31 1926 pp. 59–90, 7 figs. [Col.]

228.—**Benick**, L. Die Wanzen (Hemiptera Heteroptera) der Oldesloer Salzgebiete. Mitt. geogr. Ges. Lübeck (2) 31 1926 pp. 91–101.

229.—Benick, L. *Inventa entomologica itineris Hispanici et maroccani*, quod a. 1926 fecerunt Harald et Håkan Lindberg. V. Steninen von Marokko und Spanien. Comment. Biol. Soc. Sci. Fenn., Helsingfors 3 1930 no. 10 pp. 1-4. [Col.]

230.—Benick, L. Ein Riesen-*Stenus* aus Neu-Guinea. N. Beitr. syst. Insektenk., Berlin 5 1931 pp. 32-33. [Col.]

231.—Benick, L. Ueber alte und neue ostasiatische Steninen. Wien. ent. Ztg. 48 1931 pp. 137-146. [Col.]

232.—Benkert, J. M. Chromosome number of the male of the first form reproductive caste of *Reticulitermes flavipes* Kollar. Proc. Pennsylvania Acad. Sci., Harrisburg 4 1930 pp. 97-99. [Isopt.]

233.—Benoist, A. Hyménoptères des Ardennes. Bull. Soc. Hist. nat. Ardennes, Charleville 24 1929 pp. 9-15.

234.—Benoist, R. Les Osmies de la faune française (Hymenopt., Apidae). Ann. Soc. ent. Fr., Paris 100 1931 pp. 23-60.

235.—Benoist, R. Descriptions de nouvelles espèces africaines du genre *Heriades* (Hymen. Apidae). Ann. Soc. ent. Fr., Paris 100 1931 pp. 99-105.

236.—Benson, R. B. Notes on the British sawflies of the genus *Athalia* (Hymenoptera, Tenthredinidae), with the description of a new species. Ent. Mon. Mag., London 67 1931 pp. 109-114, 3 figs.

237.—Benson, R. B. Notes on the habits and the occurrences of *Athalia* species in Britain. Ent. Mon. Mag., London 67 1931 pp. 134-137. [Hym.]

238.—Bequaert, J. The genus *Lasia* (Diptera, Cyrtidae) in North America, with descriptions of two new species. Amer. Mus. Nov., New York no. 455 1931 11 pp.

239.—Bequaert, J. Moroccan folded-winged wasps, mainly collected by Professor T. D. A. Cockerell's party. J. New York Ent. Soc. 39 1931 pp. 131-137. [Hym.]

240.—Bequaert, J. Tabanidae of the Peninsula of Yucatan, Mexico, with descriptions of new species. J. New York Ent. Soc. 39 1931 pp. 533-553, 3 figs. [Dipt.]

241.—Bequaert, J. The color forms of the common hornet, *Vespa crabro* Linnaeus. Konowia, Vienna 10 1931 pp. 101-109. [Hym.]

241a.—Bequaert, J. Notes on Hippoboscidae. 3, Hippoboscidae of Yucatan. Psyche, Boston 38 1931 pp. 186-193. [Dipt.]

242.—Bequaert, J. & Salt, G. New West Indian Diptoptera. Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 765-797. [Hym.]

243.—Bercio, —. I. Nachtrag zu: Weitere Corrigenda zu Reitters Fauna germanica. Coleopt. Centralbl., Berlin 5 1931 pp. 139-145. [Col.]

244.—Bergevin, E. de. Description d'un nouveau genre et d'une nouvelle espèce de Pentatomidae (Tribu des Pentatomaria) Hémiptère provenant des chasses de M. de Peyerimhoff au Hoggar. Bull. Soc. Hist. nat. Afr. N., Algiers 22 1931 pp. 77-79, 2 figs.

245.—Bergevin, E. de. Description d'un nouveau genre et d'une nouvelle espèce de Psyllidae de la sous-famille des Ciriacreminae provenant des chasses de M. Dumont dans le Sud-tunisien. Bull. Soc. Hist. nat. Afr. N., Algiers 22 1931 pp. 415-420, 1 fig. [Hem.]

246.—Bergevin, E. de. Description d'une nouvelle espèce de Psyllidae du genre *Pachypsylloides* recueillie par M. de Peyerimhoff à Fort-Lallemand (au Sud d'Ouargla) au retour de la mission du Hoggar. Bull. Soc. Hist. nat. Afr. N., Algiers 22 1931 pp. 420-423, 2 figs. [Hem.]

247.—Bergmann, A. Beitrag zur Lebensgeschichte von *Agrotis* (*Euxoa*) *fatidica* Hb. Int. ent. Z., Guben 25 1931 pp. 25-36, 2 pls. [Lep.]

248.—Bergmann, A. Wandernde Schmetterlinge. Int. ent. Z., Guben 25 1931 pp. 209-213. [Lep.]

249.—Bergmann, A. Entomologische Beobachtungen aus einigen Thüringer Sammelgebieten im Jahre 1929. Int. ent. Z., Guben 25 1931 pp. 241-254. [Lep.]

250.—Bernard, F. Captures d'Hémiptères sur le littoral méditerranéen. Bull. Soc. ent. Fr., Paris 1931 pp. 62-64

251.—Bernhauer, M. Neue Staphyliniden aus China von der Stötzner'schen Expedition. Ent. NachrBl., Troppau 5 1931 pp. 1-3. [Col.]

252.—Bernhauer, M. Entomological expedition to Abyssinia, 1926-7: Coleoptera, Staphylinidae. Systematic Report. Introduction by Hugh Scott. J. Linn. Soc., London Zool. **37** 1931 pp. 559-605.

253.—Bernhauer, M. Eine neue Subtribus der Quediini (Staphylinidae). Koleopt. Rdsch., Vienna **17** 1931 p. 84. [Col.]

254.—Bernhauer, M. Uebersicht der bisher bekannten Arten der Gattung *Glyphesthus* Kr. (Staphylin.) nebst den Beschreibungen dreier neuer Arten. Koleopt. Rdsch., Vienna **17** 1931 pp. 85-88. [Col.]

255.—Bernhauer, M. Zur Staphylinidenfauna des chinesischen Reiches. Wien. ent. Ztg. **48** 1931 pp. 125-132. [Col.]

Bernhauer, M. *see* Lindberg & Bernhauer

256.—Berro, J. Técnica de las preparaciones micrográficas para el estudio de Cócidos. Bol. Pat. veg. Ent. agric., Madrid **5** (1930) 1931 pp. 38-46, 5 figs. [Hem.]

257.—Berthet, H. Sur la présence de *Cossus terebra* (Fabr.) dans les Alpes françaises et particulièrement en Oisans. Bull. Soc. ent. Fr., Paris **1931** pp. 76-78. [Lep.]

258.—Bertholf, L. M. Reactions of the honeybee to light. J. Agric. Res., Washington, D.C., **42** 1931 pp. 379-419, 13 figs. [Hym.]

259.—Bertholf, L. M. The distribution of stimulative efficiency in the ultra-violet spectrum for the honeybee. J. Agric. Res., Washington, D.C. **43** 1931 pp. 703-713, 3 figs. [Hym.]

260.—Bertolini, F. Uova e larve di *Pieris brassicae*. Atti Acc. sci. ven. trent.-istr., Padua (3) **20** 1929 pp. 43-49, 1 pl. [Lep.]

261.—Bertrand, H. Captures et élevages de larves des Coléoptères aquatiques (5e note). Ann. Soc. ent. Fr., Paris **100** 1931 pp. 87-98, 13 figs.

262.—Bertrand, H. Notice sur les larves de Dytiscides de la collection Meinert. Ent. Medd., Copenhagen **17** 1931 pp. 286-305, 14 figs. [Col.]

263.—Berwig, W. Laboratoriumsversuche zur Bionomie und Bekämpfung der Forleule. Z. angew. Ent., Berlin **17** 1931 pp. 563-586, 16 figs. [Lep.]

264.—Bethe, A. & Woitas, E. Studien über die Plastizität des Nervensystems. II. Mitteilung. Coleoptera, Käfer. Pflüger's Arch. ges. Physiol., Berlin **224** 1930 pp. 821-835, 5 figs.

265.—Betts, A. D. Einige Bemerkungen über den Wärme- und Sauerstoffhaushalt der Biene. Arch. Bienenkunde, Neumünster i. Holstein **10** 1929 pp. 59-62. [Hym.]

266.—Betz, J. T. Note sur quelques Papillons aberrants trouvés dans la région de Roubaix (Nord, France). Lambillionica, Brussels **31** 1931 pp. 69-70. [Lep.]

267.—Beuret, H. Biologische und systematische Beiträge zur Geschichte der Lycaeniden. Ent. Rdsch., Stuttgart **48** 1931 pp. 213-219, 221-223, 242-244. [Lep.]

Bey-Bienko *see* Bei-Bienko.

Beyer, M. *see* Stitz & Beyer.

268.—Bhatia, H. L. Studies in the life-histories of three Indian Syrphidae. Ind. J. Agric. Sci., Calcutta **1** 1931 pp. 503-513, 3 pls. [Dipt.]

269.—Bibby, F. F. Coccoids collected on wild plants in semi-arid regions of Texas and Mexico (Homoptera). Bull. Brooklyn Ent. Soc. **26** 1931 pp. 189-194; also in J. New York Ent. Soc. **39** 1931 pp. 587-591.

270.—Biegeleben, F. Un raro imenottero nuovo nella Venezia Tridentina. Studi trentini, Trento **10** 1929 pp. 210-214, 2 figs.

271.—Bierig, A. Neue Staphyliniden (Col.) aus Cuba und Panama nebst ergänzenden Beschreibungen und systematischer Berichtigung. Rev. Ent., São Paulo **1** 1931 pp. 423-428, 3 figs.

272.—Bigham, J. T. The alimentary canal of *Asaphes memnonius* Hbst. Ohio J. Sci., Columbus **31** 1931 pp. 386-395, 2 pls. [Col.]

273.—Bilosor, M. Beiträge zur Lepidopterenfauna Podoliens. [In Russian with German summary.] Trav. Mus. zool. Kiev no. **10** 1931 pp. 127-206.

274.—Bird, H. The *Papaipema* species of the Pacific coast (Lepidoptera). Canad. Ent., Orillia **63** 1931 pp. 183-187, 1 pl.

- 275.—Birula, A. Ueber die russischen Wespen und ihre geographische Verbreitung (Dritter Beitrag). *Annu. Mus. zool. Acad. Leningrad* 31 1930 pp. 291-339, 12 figs. [Hym.]
- 276.—Bischler, V. & Piquet, J. Quelques mutations spontanées de *Drosophila immigrans*. *C.R. Soc. Biol., Paris* 108 1931 pp. 1027-1029. [Dipt.]
- 277.—Bischoff, H. Einige Mutillidae von Italienisch-Somaliland. *Boll. Soc. ent. ital., Genoa* 63 1931 pp. 43-45. [Hym.]
- 278.—Bischoff, H. Eine bisher bekannte und eine neue Art der Gattung *Vespa* aus der mitteleuropäischen Fauna (Hym. Vesp.). *Mitt. deuts. ent. Ges., Berlin* 2 1931 pp. 6-7.
- 279.—Bischoff, H. Der Typus der *Mutilla dubia* F.-ein Gynander. *Mitt. deuts. ent. Ges., Berlin* 2 1931 pp. 54-56, 1 fig. [Hym.]
- 280.—Bischoff, H. Entomologische Ergebnisse der Deutsch-Russischen Alai-Pamir-Expedition 1928 (II). 4. Hymenoptera VII. Zur Kenntnis einiger Hummelnester aus dem Pamir. *Mitt. zool. Mus. Berlin* 16 (1930) 1931 pp. 860-864.
- 281.—Bischoff, H. Hymenopteren aus dem nördlichen und östlichen Spanien. *Senckenbergiana, Frankfurt-a.-M.* 13 1931 pp. 7-10.
- 282.—Bischoff, H. Zur Kenntnis der Gattung *Pseudovespa*. *SitzBer. Ges. naturf. Fr. Berlin* 1930 1931 pp. 329-346, 5 figs. [Hym.]
- 283.—Bischoff, H. & Hedicke, H. Ueber einige von Illiger beschriebene Apiden (Hym.). *SitzBer. Ges. naturf. Fr. Berlin* 1930 1931 pp. 385-392.
- 284.—Bischoff, W. Die Biologie der Blepharoceriden während der Entwicklung und als Imago. *Verh. int. Ver. Limnol. Kiel, Stuttgart* 1 (1922) 1923 pp. 222-234. [Dipt.]
- 285.—Bishop, S. C. & Hart, R. C. Note on a migration of mosquito larvae. *Bull. Brooklyn Ent. Soc.* 26 1931 pp. 88-90. [Dipt.]
- Bishopp, F. C. *see* Laake, Parman, Bishopp & Roark.
- 286.—Blackman, M. W. A revisional study of the genus *Pseudopityophthorus* Sw. in North America. *J. Washington Acad. Sci.* 21 1931 pp. 223-236, 15 figs. [Col.]
- 287.—Blackman, M. W. A revisional study of the genus *Gnathotrichus* Eichhoff in North America. *J. Washington Acad. Sci.* 21 1931 pp. 264-276, 18 figs [Col.]
- 288.—Blackwelder, R. E. The Sphaeridiinae of the Pacific Coast (Coleoptera, Hydrophilidae). *Pan-Pacific Ent., San Francisco* 8 1931 pp. 19-32.
- 289.—Blair, K. G. Some new species of Indian Heteromera (Col.). *Ent. Mon. Mag., London* 67 1931 pp. 199-205.
- 290.—Blair, K. G. A collection of Coleoptera from the Rub'al Khali, southern Arabia, with descriptions of some new species and varieties. *Ent. Mon. Mag., London* 67 1931 pp. 269-271.
- 291.—Blair, K. G. The beetles of the Scilly Islands. *Proc. Zool. Soc. London* 1931 pp. 1211-1258. [Col.]
- Blair, K. G. *see* Thomas et al.
- 292.—Blaisdell, F. E. Studies in the Melyridae, no. 9 (Coleoptera). *Canad. Ent., Orillia* 63 1931 pp. 178-183.
- 293.—Blaisdell, sr., F. E. Studies in the Tenebrionidae, number three (Coleoptera). *Pan-Pacific Ent., San Francisco* 8 1931 pp. 41-46.
- 294.—Blaisdell, sr., F. E. Studies in the Melyridae (Coleoptera). *Trans. Amer. Ent. Soc., Philadelphia* 57 1931 pp. 325-331, 1 pl.
- 295.—Blake, D. H. Notes on West Indian and Central American flea-beetles (Halticinae). *Bull. Brooklyn Ent. Soc.* 26 1931 pp. 76-82, 1 pl. [Col.]
- 296.—Blake, D. H. Revision of the species of beetles of the genus *Trirhabda* north of Mexico. *Proc. U.S. Nat. Mus., Washington, D.C.* 79 art. 2 no. 2868 1931 36 pp. 2 pls. [Col.]
- 297.—Bliss, C. I., Broadbent, B. M. & Watson, S. A. The life-history of the California red scale, *Chrysomphalus aurantii* Maskell: Progress report. *J. Econ. Ent., Geneva, N.Y.* 24 1931 pp. 1222-1229, 3 figs. [Hem.]
- 298.—Blöte, H. C. Nederlandsche Hemiptera in 's Rijks Museum van natuurlijke Historie. I. *Zool. Meded., Leiden* 13 1930 pp. 241-258.
- 299.—Blöte, H. C. Catalogue of the Pyrrhocoridae in 's Rijks Museum van Natuurlijke Historie. *Zool. Meded., Leiden* 14 1931 pp. 97-136, 6 figs. [Hem.]

300.—Blunck, H. Der Massenwechsel der Insekten und seine Ursachen. 4. Wanderversammlung deuts. Ent. Kiel (11–15.vi.1930), Berlin 1930 pp. 19–41.

301.—Blüthgen, P. Zur Kenntnis der Bienenfauna Nordthüringens. Mitt. ent. Ges. Halle a.S., Berlin 12 1919 pp. 19–36. [Hym.]

302.—Blüthgen, P. Beiträge zur Synonymie der Bienengattung *Halictus* Latr. VII (Hym. Apid.). Deuts. ent. Z., Berlin 1930 1931 pp. 209–215.

303.—Blüthgen, P. Beiträge zur Kenntnis der Gattung *Pemphredon* Latr. (s.l.) (Hym. Crabronidae). Konowia, Vienna 10 1931 pp. 121–129.

304.—Blüthgen, P. Zur Gültigkeit der "Erlangen Liste" und über die Zulässigkeit bedingter Beschreibungen. Konowia, Vienna 10 1931 pp. 129–132.

305.—Blüthgen, P. Beiträge zur Kenntnis der Bienengattung *Halictus* Latr. III. Mitt. zool. Mus. Berlin 17 1931 pp. 319–398, 21 figs. [Hym.]

306.—Blüthgen, P. Beiträge zur Kenntnis der indomalayischen *Halictus*- und *Thrincostoma*-Arten (Hym. Apidae. Halictini.). Zool. Jahrb., Jena, Syst. 61 1931 pp. 285–346, 8 figs.

307.—Bobrow, A. & Friesen, H. Beiträge zur Genetik des Seidenspinners (*Sericaria mori* L.). Z. indukt. Abstamm. Vererb. Lehre, Leipzig 58 1931 pp. 222–247, 1 pl. 3 figs. [Lep.]

308.—Bock, F. Arthropodenseiden. In Pax & Arndt Die Rohstoffe des Tierreich, Berlin 1 Lief. 8 1931 pp. 875–880.

309.—Bodenheimer, F. S. Zur Frühgeschichte der Erforschung des Insektenparasitismus. Arch. Gesch. Math. Naturw. Techn., Berlin 13 1931 pp. 402–416.

310.—Bodenheimer, F. S. Beobachtungen an dem Eri-Seidenspinner: *Philosamia cynthia ricini* Bois. (Lepidoptera). Bull. Soc. ent. Egypte, Cairo 1931 pp. 20–41, 5 figs.

311.—Bodenheimer, F. S. Zur Kenntnis der paläarktischen *Kermes*-Arten (Rhy. Cocc.). Konowia, Vienna 10 1931 pp. 241–247, 3 figs. [Hem.]

312.—Bodenheimer, F. S. Erfahrungen über die Biologie der Hausfliege (*Musca domestica* L.) in Palästina. Z. angew. Ent., Berlin 18 1931 pp. 492–504. [Dipt.]

313.—Bodenheimer, F. S. Ueber die Temperaturabhängigkeiten von Insekten. III. Die Beziehungen der Vorzugstemperatur zur Luftfeuchtigkeit der Umgebung. Z. vergl. Physiol., Berlin 13 1931 pp. 740–747 2 figs.

314.—Bodenheimer, F. S. Ueber thermotaktisches Verhalten, Körpertemperatur und Aktivitätsminimum bei Insekten. Zool. Anz., Leipzig 93 1931 pp. 59–61.

315.—Bodenheimer, F. S. & Klein, H. Z. Ueber der Temperaturabhängigkeiten von Insekten. II. Die Abhängigkeit der Aktivität bei der Ernteameise *Messor semirufus* E. André von Temperatur und anderen Faktoren. Z. vergl. Physiol., Berlin 11 1930 pp. 345–385, 17 figs. [Hym.]

316.—Bodenheimer, F. S. & Scheinkin, D. Ueber die Temperaturabhängigkeiten von Insekten. I. Ueber die Vorzugstemperatur einiger Insekten. Z. vergl. Physiol., Berlin 8 1928 pp. 1–15, 10 figs.

317.—Bodenheimer, F. S. & Schmidt, C. T. The Robinson method for determination of bound and free water in the insect body. J. Econ. Ent., Geneva, N.Y. 24 1931 pp. 1090–1093.

318.—Bodine, J. A. Factors influencing the rate of respiratory metabolism of a developing egg (Orthoptera). Physiol. Zool., Chicago 2 1929 pp. 459–482, 14 figs.

319.—Bodine, J. H. & Evans, T. C. Cyclic or rhythmic responses of organisms to temperature. Anat. Rec., Philadelphia 51 1931 suppl. pp. 23–24. [Hym.]

320.—Bois-Reymond, P. du. Lepidoptera prussica. Z. wiss. Insekt Biol., Berlin 26 1931 pp. 29–41.

321.—Boissezon, P. de. Contribution à l'étude de la biologie et de l'histo-physiologie de *Culex pipiens* L. Arch. Zool. exp. gén., Paris 70 1930 pp. 281–431, 4 pls. 17 figs. [Dipt.]

322.—Bolam, G. The Lepidoptera of Northumberland and the Eastern Borders. Hist. Berwicksh. Nat. Cl., Edinburgh **26** (1927) 1928 pp. 135-227; **26** (1928) 1929 pp. 323-358; **27** 1929 pp. 115-142; **27** (1930) 1931 pp. 221-265.

323.—Bolívar y Pieltain, C. Monografía de los Eumastácidos (Orth. Acrid.). Trab. Mus. nac. Cien. nat., Madrid Ser. Zool. **46** 1930 xxxii + 380 pp. 186 figs.

324.—Bolívar y Pieltain, C. Estudios sobre Eumastácidos (Orth., Acrid.). I, II and IV. Bol. Soc. esp. Hist. nat., Madrid **31** 1931 pp. 289-300, 10 figs.; 483-486, 1 fig.; 555-558, 2 figs.

325.—Bolívar y Pieltain, C. Estudios sobre Eumastácidos (Orth. Acrid.). III. Revisión del género *Uvarovia* C. Bol. Eos, Madrid **7** 1931 pp. 383-393, 8 figs.

326.—Bollow, C. & Gaede, M. Adenda to supplementary Vol. I. [Rhopalocera Palaearctica.] In SEITZ Gross-Schmett. Suppl. **1** 1931 pp. 327-376.

Bollow, C. see Gaede & Bollow.

327.—Bondar, G. Um hymenoptero chalcidoideo, parasita das sementes de Solanaceae. Bol. Mus. nac. Rio de Janeiro **6** 1930 pp. 307-309, 1 fig.

328.—Bondar, G. Um novo genero e tres novas especies de Thysanopteros Heliethripineos, encontrados na Bahia. Arch. Inst. biol., São Paulo **4** 1931 pp. 83-88, 1 pl.

329.—Bondar, G. Notas biologicas sobre alguns Bruchideos brasileiros do genero *Pseudopachymerus*. Rev. Ent., São Paulo **1** 1931 pp. 417-422, 4 figs. [Col.]

330.—Bonet, F. Sur quelques Collemboles cavernicoles de l'Italie. Eos, Madrid **7** 1931 pp. 95-105, 11 figs.

331.—Bonet, F. Estudios sobre Colémbolos cavernicolas con especial referencia a los de la fauna española. Mem. Soc. españ. Hist. nat., Madrid **14** 1931 pp. 231-403, 31 figs.

332.—Bonnamour, S. Faune des Coléoptères de la région lyonnaise. Famille des Longicornes. Ann. Soc. linn. Lyon **76** 1931 pp. 119-132.

333.—Bonne, G. Premier aperçu des zoocécidies du Lautaret. Bull. Soc. sci. Dauphiné, Grenoble **50** 1929-30 pp. 245-280.

334.—Bonne-Wepster, J. The genus *Taeniorhynchus* Arribalzaga in the Dutch East Indies. Part II. Subgenus *Coquillettidia* Dyar. Meded. Dienst Volksgezond. Ned.-Ind., Batavia **19** 1930 pp. 387-399, 3 figs.; also in Dutch in Geneesk. Tijdschr. Ned.-Ind., Batavia **71** 1931 pp. 260-276, 3 figs. [Dipt.]

335.—Bordas, L. Anatomie comparée des ovaires de quelques Hyménoptères. C.R. Acad. Sci. Fr., Paris **192** 1931 pp. 1751-1753.

336.—Borden, A. D. Some field observations on codling moth behaviour J. Econ. Ent., Geneva, N.Y. **24** 1931 pp. 1137-1145, 1 fig. [Lep.]

337.—Borelli, A. Nouveau genre et nouvelle espèce de Dermaptères de Madagascar. Bull. Mus. Hist. nat., Paris (2) **3** 1931 pp. 492-495, 5 figs.

338.—Borelli, A. Dermaptères de l'Inde méridionale. Rev. suisse Zool., Geneva **38** 1931 pp. 289-308, 12 figs.

339.—Borgmeier, T. Sobre alguns Phorideos que parasitam a saúva e outras Formigas cortadeiras (Diptera, Phoridae). Arch. Inst. biol., São Paulo **4** 1931 pp. 209-228, 5 pls.

340.—Borgmeier, T. Um cypselideo ecitophilo de Goyaz (Dipt. Cypselidae). Rev. Ent., São Paulo **1** 1931 pp. 30-37, 1 pl. 2 figs.

341.—Borgmeier, T. Especies arachnophilas e outras especies dos generos *Megaselia* Rondani (1856) e *Pericycloclera* Schmitz (1928) (Dipt., Phoridae). Rev. Ent., São Paulo **1** 1931 pp. 142-150, 6 figs.

342.—Borgmeier, T. Eine neue zoophage Itonidengattung aus S. Paulo (Diptera, Itonididae). Rev. Ent., São Paulo **1** 1931 pp. 184-191, 9 figs.

343.—Borgmeier, T. Sobre a publicação de nomes manuscritos. Rev. Ent., São Paulo **1** 1931 pp. 229-233.

344.—Borgmeier, T. Sobre alguns coleopteros ecitofilos do Brasil (Staphylinidae). Rev. Ent., São Paulo **1** 1931 pp. 355-367, 22 figs.

345.—Borgmeier, T. Uma nova especie de *Cenocoelius* (Hym. Braconidae), parasita de *Oncideres dejeani* Thoms. (Col. Cerambycidae). Rev. Ent., São Paulo 1 1931 pp. 431-436, 6 figs.

346.—Börner, C. Mitteilungen über Blattläuse. Anz. Schädlingssk., Berlin 7 1931 pp. 8-11, 28-30, 42-43, 117, 128-130. [Hem.]

347.—Borodaevskii, P. P. Notes on the biology of *Pityogenes chalcographus* L. [In Russian.]; Plant Prot., Leningrad 7 1931 pp. 249-251, 1 fig. [Col.]

Bos, A. see Nieschulz & Bos.

348.—Boselli, F. B. Studii sugli Psyllidi (Homoptera : Psyllidae o Chermidae). Boll. Lab. Zool. Portici 24 1931 pp. 267-278, 6 figs.

Bostian, C. H. see Whiting & Bostian.

349.—Bostian, N. C. A factor for fused antennae and tarsi. Proc. Pennsylvania Acad. Sci., Harrisburg 4 1930 pp. 84-85. [Hym.]

350.—Bostian, N. C. Sex ratios and mutants from x-rayed adult females of *Habrobracon*. Anat. Rec., Philadelphia 51 1931 suppl. p. 121. [Hym.]

351.—Boucomont, A. Revision der *Aulonocnemis* Kl. des collections Schaufuss et Fairmaire. Ent. NachrBl., Troppau 5 1931 pp. 25-31. [Col.]

352.—Boucomont, A. A list of the coprophagous Coleoptera of China. Lingnan Sci. J., Canton 7 (1929) [1931] pp. 759-794.

353.—Boucomont, A. A list of the coprophagous Coleoptera of China. First supplement. Lingnan Sci. J., Canton 10 1931 pp. 451-453.

354.—Bougerie, R. Catalogue des Coléoptères du département des Ardennes. Bull. Soc. Hist. nat. Ardennes, Charleville 1929 23 pp. 63-67; 24 pp. 76-77.

355.—Bourgoin, A. Deux *Astraca* nouveaux (Col. Scarabaeidae). Bull. Soc. ent. Fr., Paris 1931 pp. 176-178.

356.—Boursin, C. Beiträge zur Kenntnis der Noctuiden-Trifiden. Int. ent. Z., Guben 25 1931 pp. 157-161, 2 pls. [Lep.]

357.—Bouvier, E. L. Sur *Nudaurelia kafubuensis* sp. nov. et les espèces du même groupe. Rev. Zool. Bot. afr., Brussels 20 1931 pp. 201-205. [Lep.]

358.—Bouvier, E. L. Sur une collection de Saturnides du Congo Belge. Rev. Zool. Bot. afr., Brussels 20 1931 pp. 343-348. [Lep.]

359.—Bouvier, E. L. & Riel, P. Catalogue des papillons sericigènes saturnioides. Rap. Lab. Etudes Soie, Lyons 17 (1924-31) 1931 pp. 1-90, 3 pls. [Lep.]

360.—Böving, A. G. & Craighead, F. C. An illustrated synopsis of the principal larval forms of the order Coleoptera. Ent. amer., Brooklyn 11 (1930-31) 1931 pp. 1-351, 125 pls.

361.—Box, H. E. The Crambine genera *Diatraea* and *Xanthopherne* (Lep. Pyral.). Bull. Ent. Res., London 22 1931 pp. 1-50, 5 pls. 5 figs. 1 table.

362.—Boyce, A. M. The diapause phenomenon in insects, with special reference to *Rhagoletis completa* Cress. (Diptera : Tryptetidae). J. Econ. Ent., Geneva, N.Y. 24 1931 pp. 1018-1024.

363.—Bradley, J. C. Guide to the study of the wings of insects. Ithaca, N.Y., Daw, Illston & Co. 1931 41 pp. 67 pls. 10 figs.

364.—Bradley, J. C. Brief laboratory guide and exercises in phylogeny. Ithaca, N.Y., Daw, Illston & Co. 1931 9 pp. 13 pls.

365.—Bradley, J. C. The identity of *Campsomeris aureola* Saussure (nec Klug) and of *curvivittata* Cameron (Hymenoptera, Scoliidæ). Ann. Mag. Nat. Hist., London (10) 8 1931 pp. 167-173.

366.—Bradley, J. C. On the identity of *Scolia mansueta* Gerstaecker and *funerea* Gribodo, with description of a new species commonly misidentified as the former (Hymenoptera—Scoliidae). Mem. Soc. ent. ital., Genoa 10 1931 pp. 86-92.

367.—Bradley, W. H. Origin and micro-fossils of the oil shale of the Green River formation of Colorado and Utah. Prof. Pap. U.S. Geol. Surv., Washington D.C. 168 1931 pp. 1-58 28 pls., 2 maps, 5 graphs. (Insects pp. 49-51.) [Fossil.]

368.—Bragina, A. Beiträge zur Kenntnis der mazedonischen Culiciden nebst einigen Bemerkungen allgemeiner Art. Arch. Schiffs- u. Tropenhyg., Leipzig 35 1931 pp. 345-353, 3 figs. [Dipt.]

369.—Brasavola de Massa, A. Note coleotterologiche. Studi trentini, Trento 11 1930 pp. 71-74, 1 pl.

370.—Brasavola de Massa, A. Contributo alla conoscenza dei Coleotteri trentini. Studi trentini, Trento 12 1931 pp. 132-136, 3 figs.; 220-224, 1 pl.

Braun, E. see Alfonsus & Braun.

371.—Breakey, E. P. Additional notes on the natural enemies of the iris borer, *Macronoctua onusta* Grote (Lepidoptera). Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 40-44.

372.—Brecher, L. Die anorganischen Bestandteile des Schmetterlingspuppenblutes (*Sphinx pinastri*, *Pieris brassicae*). Veränderungen in Gehalt an anorganischen Bestandteilen bei der Verpuppung (*P. brassicae*). Biochem. Z., Berlin 211 1929 pp. 40-64. [Lep.]

373.—Brecher, G. Beitrag zur Raumorientierung der Schabe *Periplaneta americana*. Z. vergl. Physiol., Berlin 10 1929 pp. 497-526, 15 figs. [Orth.]

374.—Bremer, H. & Kaufmann, O. Die Rübenfliege *Pegomya hyoscyami* Pz. Monog. Pflanzenschutz 7, Berlin, Springer 1931 110 pp. 32 figs. [Dipt.]

375.—Breyer, A. Notas sobre cuatro Heterocera argentinos. Rev. Soc. ent. argent., B. Aires 3 1931 pp. 207-209, 1 pl. [Lep.]

376.—Breyer, A. Los Castniidae argentinos. Rev. Soc. ent. argent., B. Aires 3 1931 pp. 233-238, 1 pl. [Lep.]

377.—Breyer, A. Dos nuevos Noctuidae argentinos. Rev. Soc. ent. argent., Buenos Aires 3 1931 pp. 309-310, 2 figs. [Lep.]

378.—Bridwell, J. C. Bruchidae infesting seeds of Compositae, with descriptions of new genera and species (Coleoptera). Proc. Ent. Soc. Washington 33 1931 pp. 37-42.

379.—Brien, P. Notes sur *Phloea paradoxa* Burm. (1835). Mission biol. Belge Brésil (Aug. 1922-May 1923), Brussels 2 1930 pp. 207-212, 6 figs. [Hem.]

380.—Brighenti, D. Osservazioni sulla biologia dell' *Anopheles sacharovi*, Fav. Boll. Zool., Naples 1 1930 pp. 27-30. [Dipt.]

381.—Brighenti, D. Sull' alimentazione delle larve di *Anopheles*. Nota preliminare. Boll. Zool., Naples 2 1931 pp. 27-31. [Dipt.]

Brindley, Mrs. M. H. see Haviland, M. D.

382.—Brinkmann, R. Das Auftreten verdunkelter Formen von *Agria tau* L. im Ruhrgebiet. Int. ent. Z., Guben 24 1931 pp. 496-500, 1 pl. [Lep.]

Broadbent, B. M. see Bliss, Broadbent & Watson.

383.—Brocher, F. Observations biologiques sur la larve du *Delopsis aterrima* Zett. et sur celle du *Leptomorphus walkeri* Curt. (Diptères mycétophiles). Rev. suisse Zool., Geneva 38 1931 pp. 67-76, 3 figs.

384.—Brombacher, E. Das Vorkommen von *Nonagria geminipuncta* Hatchett in der Umgebung von Freiburg im Breisgau und einige Beobachtungen in der Lebensweise derselben. Int. ent. Z., Guben 25 1931 pp. 4-9, 1 fig. [Lep.]

385.—Brombacher, E. Bemerkenswerte Funde von zwei seltenen Noctuiden auf dem Kaiserstuhl. Int. ent. Z., Guben 25 1931 p. 153, 3 figs. [Lep.]

386.—Bromley, S. W. New Asilidae, with a revised key to the genus *Stenopogon* Loew (Diptera). Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 427-435.

387.—Brooke, W. A. A. Some observations on the life-history of *Arthrocnodax wissmani* Kieffer (Cecidomyiidae, Diptera). Entomologist, London 64 1931 pp. 180-182, 1 pl.

388.—Brower, E. A. Recapture of marked cutworm moths in a trap lantern (Lep.: Noctuidae). Ent. News, Philadelphia 42 1931 pp. 44-46.

389.—Brown, F. M. A revision of the genus *Aphrissa*. Amer. Mus. Nov., New York no. 454 1931 14 pp. 15 figs. [Lep.]

390.—Brown, J. M. Report on the Collembola collected by the Oxford University Expedition to Lapland, 1930. Ann. Mag. Nat. Hist., London (10) 8 1931 pp. 131-139, 5 figs.

- 391.—Brown, W. J. The entomological record, 1930. 61st Ann. Rep. Ent. Soc. Ontario 1930, Toronto 1931 pp. 86-95.
- 392.—Brown, W. J. Revision of the North American Aegialiinae (Coleoptera). Canad. Ent., Orillia 63 1931 pp. 9-19, 42-49, 1 pl.
- 393.—Brown, W. J. New species of Coleoptera (II). Canad. Ent., Orillia 63 1931 pp. 115-122.
- 394.—Bruch, C. Un género nuevo de estafilénido ecitófilo. Rev. Ent., São Paulo 1 1931 pp. 15-19, 8 figs. [Col.]
- 395.—Bruch, C. Algunos mirmecófilos y termitófilos nuevos y poco conocidos de la Argentina. Rev. Ent., São Paulo 1 1931 pp. 387-395, 1 pl. 3 figs. [Col.]
- 396.—Bruck, C. R. Two new species of bark beetles of the genus *Phloeosinus* Chapuis (Coleoptera, Scolytidae). Pan-Pacific Ent., San Francisco 7 1931 pp. 126-128.
- 397.—Bruck, R. Zur Frage über die Ernährung der Larven von *Anopheles maculipennis*. [In Russian with German summary.] Trav. Soc. Nat. Leningrad 60 1930 pp. 15-28. [Dipt.]
- 398.—Brug, S. L. Culiciden der Deutschen Limnologischen Sunda-Expedition. Arch. Hydrobiol., Stuttgart Suppl. 9 1931 pp. 1-42, 1 pl. 74 figs. [Dipt.]
- 399.—Brug, S. L. *Anopheles incognitus* n. sp. Geneesk. Tijdschr. Ned.-Ind., Batavia 71 1931 pp. 136-137, 1 fig. [Dipt.]
- 400.—Brug, S. L. New Culicidae from Sumatra. Tijdschr. Ent., Amsterdam 74 1931 pp. 245-250, 4 figs. [Dipt.]
- 401.—Brug, S. L. & Edwards, F. W. Fauna sumatrensis. Culicidae (Diptera). Tijdschr. Ent., Amsterdam 74 1931 pp. 241-261, 1 map.
- 402.—Brundin, L. Några för landet nya Coleoptera från Torneträsk-området. Ent. Tidskr., Stockholm 51 1930 pp. 48-52.
- Brundin, L. see Sjöstedt et al.
- 403.—Bruner, S. C. Two new species of *Heza* from Cuba (Hemiptera-Reduviidae). Bull. Brooklyn Ent. Soc. 26 1931 pp. 124-130, 4 figs.
- 404.—Bruneteau, J. Les colorations des Insectes. Bull. Soc. Sci. nat. Rouen (7) 64-65 1930 pp. 101-105.
- 405.—Bruneteau, J. Contribution à l'étude des Hémiptères Hétéroptères. Première liste d'espèces et variétés peu ou pas connues dans les départements de la Seine-Inférieure et de l'Eure. Bull. Soc. Sci. nat. Rouen (7) 64-65 1930 pp. 146-156.
- 406.—Brunier, B. de. Le petit peuple des sablières, *Bledius* et *Dyschirius*. Misc. ent., Castanet-Tolosan 33 1931 pp. 1-4, 41-46. [Col.]
- 407.—Bruno, G. Sulla struttura dei nervi di alcuni insetti. Monit. zool. ital., Florence 42 1931 pp. 8-15, 3 figs.
- 408.—Bryan, jr., E. H. New Diptera names in Hawaii. Proc. Hawaii. Ent. Soc. 1929-30, Honolulu 7 1931 pp. 401-404.
- 409.—Bryant, G. E. New species of African *Spondylia* (Megalopidae, Col.). Ann. Mag. Nat. Hist., London (10) 7 1931 pp. 517-557, 5 figs.
- 410.—Bryant, G. E. New species of Fijian Eumolpidae (Col., Phytophaga). Ann. Mag. Nat. Hist., London (10) 8 1931 pp. 355-365, 8 figs.
- 411.—Bryant, G. E. Some new injurious Phytophaga from South Africa. Bull. Ent. Res., London 22 1931 pp. 253-257, 5 figs. [Col.]
- 412.—Bryk, F. Baroniidae, Teinopalpidae, Parnassiidae. Lepidopt. Catalogus, Berlin 27 1923 pp. 1-247.
- 413.—Bryk, F. Pericopinae. Lepidopt. Catal., Berlin 45 1931 57 pp.
- 414.—Bryk, F. Monogame Einrichtungen bei Schmetterlingsweibchen. Arch. Frauenkunde, Leipzig 16 1930 pp. 308-313, 3 figs. [Lep.]
- 415.—Bryk, F. Die Abhängigkeit der Augenflecke vom Flügelgeäder in der Gattung *Parnassius* Latr. Ein Beitrag zur Zeichnung der Lepidopteren. Zool. Jahrb., Jena Syst. 62 1931 pp. 149-174, 32 figs.
- 416.—Bryk, F. & Eisner, C. Kritische Revision der Gattung *Parnassius* unter Benützung des Materials der Kollektion Eisner, Dahlem. Parnassiana, Neubrandenburg 1 1931 no. 7-8 pp. 11-15.

417.—**Buchanan, L. L.** Synopsis of *Perigaster* (Coleoptera: Curculionidae). J. Washington Acad. Sci. 21 1931 pp. 320-325, 1 fig.

418.—**Buck, A. de, Schoute, E. & Swellengrebel, N. H.** Nouvelles recherches sur les races d'*Anopheles maculipennis* aux pays-bas. C.R. 2e Congr. internat. Paludisme Alger 1930 1 1931 pp. 293-300. [Dipt.]

419.—**Buckell, E. R.** The Dermaptera and Orthoptera of Vancouver Island, British Columbia. Proc. Ent. Soc. Br. Columbia no. 27 1930 pp. 17-51.

420.—**Bücking, H.** Die Käfer von Nassau und Frankfurt von Prof. Dr. Lucas von Heyden. Erster Nachtrag zur II. Auflage des Hauptverzeichnisses. [Contd.] Ent. Bl., Berlin 27 1931 pp. 39-42, 174-183.

421.—**Buddenbrock, W.** Untersuchungen über die Hautungshormone der Schmetterlingsraupen. II. Z. vergl. Physiol., Berlin 14 1931 pp. 415-428, 10 figs. [Lep.]

422.—**Bueker, E. D.** Two new mealybugs (Coccidae) in nests of ants (*Lasius*). Amer. Mus. Nov., New York no. 453 1931 3 pp. 8 figs. [Hem., Hym.]

423.—**Buen, S. & E. de.** Notes sur la biologie de l'*A. maculipennis*. C.R. 2e Congr. internat. Paludisme Alger 1930 1 1931 pp. 277-288, 2 figs., 9 pls. [Dipt.]

424.—**Bugini, F.** La partenogenesi naturale dimostrata nel Filugello. Boll. Lab. Zool. Bachicoltura Milano 2 1931 pp. 116-149, 5 pls. [Lep.]

425.—**Bugnion, E.** L'appareil copulateur des Longicornes du sexe mâle. Bull. biol. France-Belg., Paris 65 1931 pp. 234-265, 11 figs. [Col.]

426.—**Bugnion, E.** Le ver-luisant provençal et la luciole niçoise. [Concluded.] Riviera sci., Nice Mem. 1929 Suppl. 18 1931 pp. 97-131, 9 figs. [Col.]

427.—**Bukowsky, W. S.** Notes on the distribution and biology of bark-beetles in the Crimea. [In Russian, with German summary.] Bull. Soc. Nat. Crimée, Simferopol 12 1930 pp. 128-136. [Col.]

Burdette, R. C. see Richardson, Burdette & Eagleson.

428.—**Buresch, I. & Tuleschkw, K.** *Rethera komarovi* Chr. (Lepidoptera), eine für die Fauna Europas neue Sphingide. Mitt. naturw. Inst. Sofia 4 1931 pp. 121-138, 5 figs.

429.—**Burgeon, L.** Description d'une nouvelle Cétoine du Katanga. Rev. Zool. Bot. afr., Brussels 20 1931 pp. 105-107, 1 fig. [Col.]

430.—**Burgeon, L.** Liste des Callichromini du Congo Belge des collections du Musée du Congo. Rev. Zool. Bot. afr., Brussels 20 1931 pp. 108-131. [Col.]

431.—**Burgeon, L.** Description de *Pachnoda* nouvelles (Col. Cetoniidae). Rev. Zool. Bot. afr., Brussels 20 1931 pp. 317-324, 7 figs.

432.—**Burgeon, L.** Les Rutéliens du Congo Belge. Rev. Zool. Bot. afr., Brussels 20 1931 pp. (35)-(39). [Col.]

433.—**Burgeon, L.** Les Prionides du Congo Belge. Rev. Zool. Bot. afr., Brussels 20 1931 pp. (71)-(77), 4 figs. [Col.]

434.—**Burgeon, L.** Quelques mots sur les Buprestes congolais. Rev. Zool. Bot. afr., Brussels 20 1931 pp. (86)-(90), 2 figs. [Col.]

435.—**Burgeon, L.** Les "Makakaro" ou Termites. Rev. Zool. Bot. afr., Brussels 20 1931 pp. (100)-(113), 9 figs. [Isopt.]

436.—**Burgeon, L.** Quelques Cétoines africaines nouvelles. Rev. Zool. Bot. afr., Brussels 21 1931 pp. 51-53. [Col.]

437.—**Burgeon, L.** Description d'un nouveau Prionide (Col. Cerambycidae). Rev. Zool. Bot. afr., Brussels 21 1931 pp. 92-94.

438.—**Burkill, H. J.** British butterflies in 1930. London Naturalist 1930 1931 pp. 77-79. [Lep.]

439.—**Burkill, H. J.** Heterocera notes, 1930. London Naturalist 1930 1931 pp. 80-81. [Lep.]

440.—**Burns, A. N.** Habits and life-histories of some Victorian Lycaenid butterflies. Vict. Nat., Melbourne 48 1931 pp. 129-136. [Lep.]

441.—**Burr, M.** On the mineralisation of termitaria. Ent. Rec., London 43 1931 pp. 81-83. [Isopt.]

- 442.—Busck, A. Two new Peruvian Microlepidoptera of economic importance (Gelechiidae and Oecophoridae). *Proc. Ent. Soc. Washington* 33 1931 pp. 59–63, 1 pl.
- 443.—Butler, E. A. & Palmer, R. List of Hemiptera recorded in Hertfordshire. *Trans. Herts. Nat. Hist. Soc., Hertford* 18 1929 pp. 206–211.
- 444.—Butler, H. G. Observations on the biology of the peach borer in Roane County, Tennessee, Harriman, Tennessee, 1930. *J. Econ. Ent., Geneva, N.Y.* 24 1931 pp. 851–854. [Lep.]
- Butovitsch, V. *see* Eckstein & Butovitsch.
- 445.—Butterfield, R. & Fordham, W. J. Aculeate Hymenoptera of Yorkshire. *Naturalist, London* 1931 pp. 155–158.
- 446.—Buxton, P. A. The measurement and control of atmospheric humidity in relation to entomological problems. *Bull. Ent. Res., London* 22 1931 pp. 431–447, 9 figs.
- 447.—Buxton, P. A. The thermal death-point of *Rhodnius* (Rhynchota, Heteroptera) under controlled conditions of humidity. *J. Exp. Biol., Edinburgh* 8 1931 pp. 275–278, 1 fig. [Hem.]
- 448.—Buxton, P. A. The law governing the loss of water from an insect. *Proc. Ent. Soc. London* 6 1931 pp. 27–31, 2 figs.
- 449.—Buys, J. L. Leafhoppers of Mt. Marcy and Mt. Macintyre, Essex Co., New York (Homoptera, Cicadellidae). *J. New York Ent. Soc.* 39 1931 pp. 139–143.
- 450.—Buysson, H. du. Tableaux de détermination des Elatérides de la faune franco-rhénane. [Contd.] *Misc. ent., Castanet-Tolosan* 31 1928 sep. pp. 225–240. [Col.]
- 451.—Byers, C. F. A contribution to the knowledge of Florida Odonata. *Univ. Florida Pub., Biol. Sci. Ser., Gainesville* 1 no. 1 1930 327 pp. 11 pls. 19 figs.
- 452.—Byers, C. F. Dixie dragonflies collected during the summer of 1930 (Odonata). *Ent. News, Philadelphia* 42 1931 pp. 113–119.
- Cabeau, C. *see* Derenne, F.
- 453.—Calugareanu, D. Eine funktionelle Eigentümlichkeit der Spinn-drüse des Seidenspinners (*Bombyx mori*). *Z. vergl. Physiol., Berlin* 13 1930 pp. 223–230. [Lep.]
- 454.—Calvert, P. P. The generic characters and the species of *Palaemnema* (Odonata: Agrionidae). *Trans. Amer. Ent. Soc., Philadelphia* 57 1931 pp. 1–111, 21 pls. 2 figs.
- 455.—Cameron, M. The fauna of British India; Coleoptera. Staphylinidae.—Vol. II. London, Taylor & Francis 1931 viii + 257 pp. 2 pls. 94 figs.
- 456.—Cameron, M. Staphylinidae (Coleoptera) from New Guinea, in the South Australian Museum. *Rec. S. Aust. Mus., Adelaide* 4 1931 pp. 355–364.
- 457.—Campos, F. Invertebrados del Ecuador. Nota entomologica sobre el genero *Pepsis*. *Rev. Col. Rocafuerte, Guayaquil* no. 38-39 1929 pp. 11–14. [Hym.]
- 458.—Campos, F. Contribución al estudio de los mosquitos que habitan la ciudad y zonas adyacentes. *Rev. Col. Rocafuerte, Guayaquil* no. 40-41 1930 pp. 3–11. [Dipt.]
- 459.—Campos, F. Mis afortunadas pesquisas entomológicas. (85 especies nuevas de insectos ecuatorianos.) *Rev. Col. Rocafuerte, Guayaquil* no. 40-41 1930 pp. 27–45, 2 figs.
- 460.—Candura, G. S. Studio sulla tignola del fieno (*Ptychopoda herbariata* F.). *Boll. Lab. Zool. Portici* 24 1931 pp. 233–266, 10 figs. [Lep.]
- 461.—Cappe de Baillon, P. La bipartition expérimentale des pièces impaires de l'exosquelette chez le *Tenebrio molitor* L. (Coléopt. Tenebrionidae). *C.R. Acad. Sci. Fr., Paris* 193 1931 pp. 428–430, 2 figs.
- 462.—Cappe de Baillon, P. La descendance des monstres de Phasmides. *Encyc. ent., Paris Sér. A* 14 1931 301 pp. 7 pls. 215 figs. [Orth.]
- 463.—Capra, F. Note su alcuni Coccinellidi. *Boll. Soc. ent. ital., Genova* 63 1931 pp. 15–20, 4 figs. [Col.]
- 464.—Caradja, A. Second contribution to our knowledge about the Pyralidae and Microlepidoptera of Kwanhsien. *Bull. Acad. Roumaine, Bucarest* 14 1931 pp. 59–75. [Micros. by MEYRICK.]

- 465.—Caradja, A. Beiträge zur Lepidopterenfauna Grossrumäniens für das Jahr 1930. Mem. Sect. Stiint. Acad. Româna, Bucarest (3) 7 1931 no. 8 52 pp. 2 figs.
- 466.—Cardamatis, J. P. Les espèces de moustiques en Grèce et tout particulièrement d'Athènes. Bull. Soc. Path. exotique, Paris 24 1931 pp. 122-131, 4 figs. [Dipt.]
- 467.—Cardamatis, J. P. Etude préliminaire sur les Phlébotomes en Grèce. Bull. Soc. Path. exotique, Paris 24 1931 pp. 287-292, 1 fig. [Dipt.]
- Carmichael, L. *see* Balfour & Carmichael.
- 468.—Carmin, J. & Scheinkin, D. The fauna of Palestinian plants: 2. *Ficus sycomorus* Linné. Bull. Soc. ent. Egypte, Cairo 1931 pp. 164-187, 78 figs. 2 diagr.
- 469.—Carothers, E. E. The maturational divisions and segregation of heteromorphic homologous chromosomes in Acrididae (Orthoptera). Biol. Bull., Woods Hole, Mass. 61 1931 pp. 324-349, 3 pls.
- 470.—Carpenter, F. M. The lower Permian insects of Kansas. Part 2, The orders Palaeodictyoptera, Protodonata and Odonata. Amer. J. Sci., New Haven (5) 21 1931 pp. 97-139, 6 figs. [Fossil.]
- 471.—Carpenter, F. M. The Lower Permian insects of Kansas. Part 4. The Order Hemiptera, and additions to the Palaeodictyoptera and Protohy-menoptera. Amer. J. Sci., New Haven (5) 22 1931 pp. 113-130, 8 figs. [Fossil.]
- 472.—Carpenter, F. M. Insects from the Miocene (Latah) of Washington, Trichoptera. Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 319-322, 5 figs. [Fossil.]
- 473.—Carpenter, F. M. Revision of the Nearctic Mecoptera. Bull. Mus. Comp. Zool. Harvard, Cambridge, Mass. 72 1931 pp. 205-277, 8 pls.
- 474.—Carpenter, F. M. The affinities of *Holcorpa maculosa* Scudder and other tertiary Mecoptera, with descriptions of new genera. J. New York Ent. Soc. 39 1931 pp. 405-414, 1 pl. 2 figs. [Fossil.]
- 475.—Carpenter, F. M. The biology of the Mecoptera. Psyche, Boston 38 1931 pp. 41-55, 1 fig.
- 476.—Carruth, L. A. The Meloidae of South Dakota (Coleoptera). Ent. News, Philadelphia 42 1931 pp. 50-55.
- 477.—Carter, H. J. Notes on the genus *Stigmodera* (family Buprestidae) together with descriptions of new species of and a retabulation of the subgenus *Castiarina*. Aust. Zool., Sydney 6 1931 pp. 337-367, 2 pls. [Col.]
- 478.—Carter, H. J. Australian Cistellidae.—Corrigenda. Aust. Zool., Sydney 7 1931 p. 33. [Col.]
- 479.—Cartwright, O. L. Digger wasps and Buprestidae (Hym.: Ciceridae, Coleop.: Buprestidae). Ent. News, Philadelphia 42 1931 pp. 269-270.
- 480.—Caruel, M. Liste de Lépidoptères capturés dans le département des Ardennes. Bull. Soc. Hist. nat. Ardennes, Charleville 22 1927 pp. 30-32; 23 1929 pp. 59-62; 24 1929 pp. 72-75.
- 481.—Cassino, S. E. New Geometridae. Lepidopterist, Salem 5 1931 pp. 9-16, 17-24.
- 482.—Catherine, G. Les insectes dans les religions anciennes, les légendes et l'histoire. Bull. Soc. linn. Seine-Marit., Le Havre 15 1929 pp. 20-27.
- 483.—Catherine, G. La chasse des insectes. Leurs moyens de défense. L'homochromie. Bull. mens. Soc. linn. Seine-Marit., Le Havre 16 1930 pp. 49-50.
- 484.—Caudell, A. N. Report on the Orthopteroid insects collected by the Fiji-New Zealand expedition from the University of Iowa. Univ. Iowa Studies, Iowa City 12 no. 3 1927 (n.s. 133) pp. 1-22, 2 figs.
- 485.—Caudell, A. N. Notes on Blattidae adventive to the United States (Orthop.). Ent. News, Philadelphia 42 1931 p. 204.
- 486.—Ceballos, G. Estudios sobre Iceneumónidos de España. II. Subfamilia Cryptinae (Tribu Cryptini). Trab. Mus. Cienc. Madrid Ser. Zool. 56 1931 206 pp. 102 figs. [Hym.]
- Chamberlin, J. C. *see* Becking & Chamberlin; Fulton & Chamberlin.
- 487.—Chan, K. S. Notes on the life-history of a wild silkworm. Lingnan Sci. J., Canton 7 (1929) [1931] pp. 795-808, 3 pls. [Lep.]

488.—Chapin, E. A. *Adoretus luridus* and its near relatives in the Philippine Islands. J. Washington Acad. Sci. 21 1931 pp. 305-308, 1 pl. [Col.]

489.—Chapin, E. A. New species of Melolonthine Scarabaeidae from the Philippine Islands. J. Washington Acad. Sci. 21 1931 pp. 309-314, 7 figs. [Col.]

490.—Chapman, R. N. Animal ecology with especial reference to insects. New York & London, McGraw-Hill Pub. Co. Ltd. 1931 x + 464 pp. 16 figs.

491.—Charin, N. Ueber die in vitro Kulturen der Insektengewebe. [In Russian with German summary.] Trav. Inst. Rech. sci. Univ. Voronège no. 4 1930 pp. 103-123, 2 pls.

492.—Chen, H. T. Biological notes on a Chrysomelid pest of bamboo. Lingnan Sci. J., Canton 7 (1929) [1931] pp. 515-528, 1 pl. [Col.]

493.—Chen, S. Description de trois Chrysomelinae nouveaux de l'Asie orientale. Bull. Soc. ent. Fr., Paris 1931 pp. 127-131, 2 figs. [Col.]

494.—Chen, S. H. Descriptions de trois espèces nouvelles de Chrysomelini de l'Asie orientale. Bull. Mus. Hist. nat. Paris (2) 3 1931 pp. 110-112. [Col.]

495.—[Chesnokov] Tshesnokov, P. G. Ueber *Harmolita eremita* Ports. im Gouvernement Samara nebst einer Uebersicht der anderen an Gräsern. [In Russian with German summary.] Rev. russe Ent., Leningrad 24 1930 pp. 182-193, 2 figs. [Hym.]

Chidester, F. E. *see* Wiles & Chidester.

496.—China, W. E. Morphological parallelism in the structure of the labium in the Hemipterous genera *Coptosomoides*, gen. nov., and *Bozius*, Dist. (Fam. Plataspidae) in connection with mycetophagous habits. Ann. Mag. Nat. Hist., London (10) 7 1931 pp. 281-286, 2 figs.

497.—China, W. E. A new genus and two new species of Plataspidae (Hemiptera). Ann. Mag. Nat. Hist., London (10) 7 1931 pp. 574-578, 2 figs.

498.—China, W. E. A remarkable Mirid larva from Cuba, apparently belonging to a new species of the genus *Paracarnus*, Dist. (Hemiptera, Miridae). Ann. Mag. Nat. Hist., London (10) 8 1931 pp. 283-288, 2 figs.

499.—China, W. E. A new South African species of *Rhagadotarsus* Bredd., representing a new subgenus (Hemiptera-Heteroptera, Gerridae). Ann. Mag. Nat. Hist., London (10) 8 1931 pp. 407-410, 1 fig.

500.—China, W. E. A new species of *Erythroneura* (Homoptera, Jassoidea) injurious to French beans (*Phaseolus vulgaris*) in the Sudan. Bull. Ent. Res., London 22 1931 pp. 53-54, 1 fig.

China, W. E. *see* Thomas et al.

Chodoukin *see* Khodukin.

501.—Chopard, L. Campagne spéologique de C. Bolivar et R. Jeannel dans l'Amérique du Nord (1928). 8. Insectes Orthoptères. Arch. Zool. exp. gén., Paris 71 1931 pp. 389-401, 12 figs.

502.—Chopard, L. Sur une espèce nouvelle du genre *Eneoptera* confondue avec l'*E. surinamensis* Orth. Gryllidae). Bull. Soc. ent. Fr., Paris 1931 pp. 14-16, 1 fig.

503.—Chopard, L. Achetidae et Gryllotalpidae celebicae. Treubia, Buitenzorg 12 1931 suppl. pp. 184-188. [Orth.]

504.—Chorine, V. Contribution à l'étude de l'immunité chez les insectes. Bull. biol. France-Belge, Paris 65 1931 pp. 291-393, 3 figs

505.—Chowdhury, K. L. Some observations on the hibernation and wintering of Anophelines in the Punjab. Rec. Malaria Surv. India, Calcutta 2 1931 pp. 407-421. [Dipt.]

Chowdhury, K. L. *see* Strickland & Chowdhury.

506.—Chrétien, P. Chenilles de Phycides de la faune française. Appendice. Amat. Papillons, Paris 5 1931 pp. 161-165, 3 figs.

507.—Chrétien, P. Qu'est-ce donc que la *Lita gypsella* Cst.? Amat. Papillons, Paris 5 1931 pp. 293-298, 311-316, 4 figs.

508.—Christensen, P. J. H. Ueber Anwendung von Gipsguss bei Untersuchung der Nester gewisser Grabwespen, solitärer Bienen und Faltenwespen. Vidensk. Medd. naturh. Foren. København 90 1930-31 pp. 353-356, 3 figs. [Hym.]

509.—Christophers, Sir S. R. Studies on the Anopheline fauna of India (Parts I-IV). Rec. Malaria Surv. India, Calcutta 2 1931 pp. 305-332, 3 maps. [Dipt.]

510.—Christophers, Sir S. R. & Barraud, P. J. The eggs of Indian Anophelines, with descriptions of the hitherto undescribed eggs of a number of species. Rec. Malaria Surv. India, Calcutta 2 1931 pp. 161-192, 5 pls. [Dipt.]

511.—Christophers, Sir S. R. & Puri, I. M. Notes on some Anopheline mosquitoes collected in Sierra Leone including differentiation of *Anopheles dthali* Patton (Mediterranean) as a distinct species from *Anopheles rhodensis* Theo. (Ethiopian). Ind. J. Med. Res., Calcutta 18 1931 pp. 1133-1166, 3 figs., 3 pls. [Dipt.]

512.—Christophers, Sir S. R. & Puri, I. M. Species and varieties of the *funestus* series of *Anopheles*. Rec. Malaria Surv. India, Calcutta 2 1931 pp. 481-493, 2 figs. [Dipt.]

513.—Christophers, Sir S. R., Sinton, J. A. and Covell, G. How to do a malaria survey. Health Bull. no. 14 (Malaria Bur. no. 6), Calcutta iv + 174 pp. 2nd edn. 1931 11 pls. figs. [Dipt.]

Christophers, Sir S. R. see Barraud & Christophers.

514.—Chrystal, R. N. & Skinner, E. R. Studies in the biology of *Xylonomus brachylabris* Kr., and *X. irrigator* F., parasites of the larch Longicorn beetle, *Tetropium gabrieli* Weise. Forestry, London 5 1931 pp. 21-33, 2 pls. [Hym., Col.]

515.—Chu, H. J. Notes on the life-history of *Lycorma delicatula* White in Nanking. Peking Nat. Hist. Bull., Peking 5 1931 pt. 2 pp. 33-35. [Hem.]

516.—Chûjô, M. Damselflies of subfamily Coenagrioninae from Formosa (I) including one new species. [In Japanese with English summary.] Trans. Nat. Hist. Soc. Formosa, Taihoku 21 1931 pp. 18-50, 28 figs. [Odon.]

517.—Chûjô, M. Formosan dragonflies (I). [In Japanese.] Trans. Nat. Hist. Soc. Formosa, Taihoku 21 1931 pp. 326-329. [Odon.]

518.—Clark, B. P. Descriptions of seven new Sphingidae and a note on one other. Proc. New England Zool. Cl., Cambridge, Mass. 12 1931 pp. 77-83. [Lep.]

519.—Clark, J. A new species of Lymexylonidae (Coleoptera). Proc. Roy. Soc. Victoria, Melbourne 43 1931 pp. 120-122, 1 fig.

520.—Clark, L. B. Some factors involved in the reaction of insects to changes in luminous intensity. Shock reactions in *Dineutes assimilis*. J. Exp. Zool., Philadelphia 58 1931 pp. 31-41, 1 fig. [Col.]

521.—Clausen, C. P. Biological observations on *Agriotypus* (Hymenoptera). Proc. Ent. Soc. Washington 33 1931 pp. 29-37, 1 fig.

522.—Clausen, C. P. Biological notes on the Trigonulidae (Hymenoptera). Proc. Ent. Soc. Washington 33 1931 pp. 72-81, 2 figs.

523.—Clausen, C. P. Two citrus leaf-miners of the Far East. Tech. Bull. U.S. Dept. Agric., Washington, D.C. 252 1931 13 pp. 6 figs. [Lep., Col.]

524.—Clayhills, T. H. Zur Kenntnis der Temperaturabhängigkeit der jährlichen Abundanzkurven von *Calymnia trapezina* L. Mem. Soc. Fauna fenn., Helsingfors 5 (1928-29) 1930 pp. 91-95, 5 figs. [Lep.]

525.—Cleare, jr., L. D. The egg-plant stem-borer, *Alcidion deletum* Bates (Col., Cerambycidae). Agric. J. Br. Guiana, Georgetown 4 1931 pp. 82-90, 1 pl.

526.—Coatney, G. R. On the biology of the pigeon fly, *Pseudolynchia maura* Bigot (Diptera, Hippoboscidae). Parasitology, Cambridge 23 1931 pp. 525-532.

527.—Cockayne, E. A. A structural character of the larval cuticle and its possible bearing on the classification of the Noctuidae. Ent. Rec., London 43 1931 pp. 182-184. [Lep.]

528.—Cockayne, E. A. Three rare abnormalities in Lepidopterous larvae. Homoeosis, somatic mutation, spiral segmentation. Trans. Ent. Soc. London 79 1931 pp. 305-309, 1 pl.

529.—Cockayne, E. A. An abnormality of pattern in larvae of *Mamestra pisi*, L. Trans. Ent. Soc. London **79** 1931 pp. 437-438, 1 pl. [Lep.]

530.—Cockerell, T. D. A. Some bees collected by Professor Jacot in China. Amer. Mus. Nov., New York no. **452** 1931 3 pp. 1 fig. [Hym.]

531.—Cockerell, T. D. A. Rocky Mountain Bees. II. Amer. Mus. Nov., New York no. **458** 20 pp. [Hym.]

532.—Cockerell, T. D. A. Bees collected by the Reverend O. Piel in China. Amer. Mus. Nov., New York no. **466** 1931 16 pp. [Hym.]

533.—Cockerell, T. D. A. Bees obtained by Professor Claude R. Kellogg in the Foochow District, China, with new records of Philippine Bombidae. Amer. Mus. Nov., New York no. **480** 1931 7 pp. 2 figs. [Hym.]

534.—Cockerell, T. D. A. Insects from the Miocene (Latah) of Washington. Hymenoptera and Hemiptera. Ann. Ent. Soc. Amer., Columbus **24** 1931 pp. 309-312, 2 figs. [Fossil.]

535.—Cockerell, T. D. A. Descriptions and records of Hymenoptera. Ann. Mag. Nat. Hist., London (10) **7** 1931 pp. 37-41.

536.—Cockerell, T. D. A. Descriptions and records of bees. CXXV-CXXX. Ann. Mag. Nat. Hist., London 1931 (10) **7** pp. 201-212, 273-281, 344-351, 529-536; (10) **8** pp. 411-418, 537-553.

537.—Cockerell, T. D. A. Bees of the genus *Megachile* from Africa. Ann. Mag. Nat. Hist., London (10) **8** 1931 pp. 38-48. [Hym.]

538.—Cockerell, T. D. A. The bee-genus *Crocisaspidia*. Ann. Mag. Nat. Hist., London (10) **8** 1931 pp. 213-215. [Hym.]

539.—Cockerell, T. D. A. Some African bees of the genus *Nomia*. Ann. Mag. Nat. Hist., London (10) **8** 1931 pp. 265-283. [Hym.]

540.—Cockerell, T. D. A. Some African bees. Ann. Mag. Nat. Hist., London (10) **8** 1931 pp. 400-405. [Hym.]

541.—Cockerell, T. D. A. The bees of Australia. Aust. Zool., Sydney **7** 1931 pp. 34-54.

542.—Cockerell, T. D. A. A supposed insect larva from the Jurassic. Bull. Brooklyn Ent. Soc. **26** 1931 pp. 96-97, 1 fig. [Fossil, Col.]

543.—Cockerell, T. D. A. Two genera of bees new to the recorded fauna of Nova Scotia. Canad. Ent., Orillia **63** 1931 p. 279. [Hym.]

544.—Cockerell, T. D. A. The Heriadine bees of Morocco. Entomologist, London **64** 1931 pp. 159-161. [Hym.]

545.—Cockerell, T. D. A. The wild bees of Morocco. Nat. Hist., New York **31** 1931 pp. 310-317, 8 figs. [Hym.]

546.—Cockerell, T. D. A. African bees of the family Megachilidae (*Gronoceras* and *Megachile*) from Liberia and Belgian Congo. Rev. Zool. Bot. afr., Brussels **20** 1931 pp. 132-179. [Hym.]

547.—Cockerell, T. D. A. Heriadine and related bees from Liberia and the Belgian Congo (Hymenoptera, Apoidea). Rev. Zool. Bot. afr., Brussels **20** 1931 pp. 331-341.

548.—Cockerell, T. D. A. and Le Veque, N. The antiquity of insect structures. Amer. Nat., New York **65** 1931 pp. 351-359, 10 figs. [Fossil.]

549.—Cockerell, T. D. A. & Sumner, R. Rocky Mountain Bees. III. Amer. Mus. Nov., New York no. **490** 1931 15 pp. 5 figs. [Hym.]

550.—Cole, jr., A. C. *Typha* insects and their parasites. Ent. News, Philadelphia **42** 1931 pp. 6-11, 35-39.

551.—Coleman, E. Further observations on the fertilisation of Australian orchids by the male Ichneumonid, *Lissopimpla semipunctata*, Kirb. Proc. Ent. Soc. London **6** 1931 pp. 22-24. [Hym.]

Collado, Gil see Gil Collado.

552.—Collenette, C. L. Lymantriidae (Lepidoptera Heterocera) from N.E. (British) Somaliland. Ann. Mag. Nat. Hist., London (10) **7** 1931 pp. 286-289.

553.—Collenette, C. L. Synonymy in the Lymantriidae (Insecta: Lepidoptera Heterocera). Ann. Mag. Nat. Hist., London (10) **7** 1931 pp. 510-512.

554.—Collenette, C. L. New African Lymantriidae in the British Museum collection. Trans. Ent. Soc. London **79** 1931 pp. 341-363, 2 pls. [Lep.]

555.—Collenette, C. L. A new genus and five new species of Lymantriidae. Zool. Meded., Leiden 14 1931 pp. 179-183. [Lep.]

556.—Collin, J. E. Diptera of Patagonia and South Chile based mainly on material in the British Museum (Natural History). Part VI. Fasc. 2 —Platypezidae, Pipunculidae. London, Br. Mus. (Nat. Hist.) 1931 pp. 49-61, 7 figs.

557.—Collin, J. E. Oxford University Expedition to Greenland, 1928.—Diptera (Orthorrhapha, Brachycera and Cyclorrhapha) from Greenland. Ann. Mag. Nat. Hist., London (10) 7 1931 pp. 67-91, 27 figs.

558.—Collin, J. E. Two remarkable new species of Empididae (Diptera) from New Zealand. Ann. Mag. Nat. Hist., London (10) 8 1931 pp. 352-355, 2 figs.

559.—Collin, J. E. Notes on some Syrphidae (Diptera). Ent. Mon. Mag., London 67 1931 pp. 153-159, 177-182, 3 figs.

560.—Collin, J. E. The British species of the genus *Verrallia* (Diptera). Ent. Mon. Mag., London 67 1931 pp. 234-236.

561.—Collins, B. J. The confused nomenclature of *Nycteribia* Latreille, 1796, and *Spinturnix* Heyden, 1826. Bull. Nat. Inst. Health, Washington, D.C. no. 155 1931 pp. 743-765, 11 figs. [Dipt.]

562.—Combes, M. Sur les larves de fourmis promenées pendant la nuit par des *Formica fusca* et des *F. pratensis* dans six boîtes à observations. Ann. Sci. nat. (Zool.), Paris (10) 14 1931 pp. 275-280. [Hym.]

563.—Compere, H. A revision of the species of *Coccophagus*, a genus of Hymenopterous Coccid-inhabiting parasites. Proc. U.S. Nat. Mus., Washington, D.C. 78 art. 7 no. 2850 1931 132 pp. 14 pls.

564.—Compere, H. A revision of the genus *Diversinervus* Silvestri, Encyrtid parasites of Coccids (Hymenoptera). Univ. Calif. Pub. Ent., Berkeley 5 1931 pp. 233-245, 3 figs.

565.—Compere, H. A discussion of the parasites of *Saissetia oleae* (Bern.) collected in Eritrea. Univ. Calif. Pub. Ent., Berkeley 5 1931 pp. 247-255. [Hem., Hym.]

566.—Compere, H. The African species of *Baeoanusia*, an Encyrtid genus of hyperparasites (Hymenoptera). Univ. Calif. Pub. Ent., Berkeley 5 1931 pp. 257-264, 3 figs.

567.—Compere, H. New Encyrtid (Hymenopterous) parasites of a *Pseudococcus* species from Eritrea. Univ. Calif. Pub. Ent., Berkeley 5 1931 pp. 265-274, 3 figs.

568.—Comstock, J. A. Studies on Pacific Coast Lepidoptera. (Contd.) Bull. S. Calif. Acad. Sci., Los Angeles 29 (1930) 1931 pp. 135-142, 5 pls.; 30 1931 pp. 15-20, 10 figs.

569.—Comstock, J. A. & Dammers, C. M. Notes on the early stages of four Californian Argynnis (Lepid.). Bull. S. Calif. Acad. Sci., Los Angeles 30 1931 pp. 40-44, 8 figs.

570.—Cook, W. C. An ecologically annotated list of the Phalaenidae of Montana (Lepid.) (contd.). Canad. Ent., Orillia 63 1931 pp. 1-9, 25-30.

571.—Cooke, B. H. Some Spanish moths. Entomologist, London 64 1931 pp. 7-13. [Lep.]

572.—Cooman, A. de. Description d'un Histéride (Col.) nouveau du Tonkin. Bull. Soc. ent. Fr., Paris 1931 pp. 279-280.

573.—Cordero, E. H. La presencia en el Uruguay de dos especies de dipteros vulnerantes del género *Phlebotomus*. An. Fac. Med. Montevideo 15 1930 pp. 690-698, 3 figs.

574.—Corkins, C. L. The metabolism of the honeybee colony during winter. Bull. Wyoming Agric. Expt. Sta., Laramie 175 1930 52 pp. 16 figs. [Hym.]

575.—Corporaal, J. B. Check-list of the Cleridae of Sumatra with their geographical distribution outside this island. Misc. zool. sumat., Medan 51 1931 6 pp. [Col.]

576.—Corset, J. Les coaptations chez les insectes. Bull. biol. France-Belge, Paris Suppl. 13 1931 337 pp. 2 pls. 182 figs.

577.—Corti, A. Agrotinae (Euxoinae). In SEITZ Suppl. 3 1931 pp. 22-32.

578.—Corti, A. Studien über die Subfamilie der Agrotinae. XXIV. Mitt. münchn. ent. Ges., Munich 20 (1930) 1931 pp. 98-114, 1 pl. [Lep.]

579.—Corti, A. Studien über die Subfamilie der Agrotinae (Lep.). XXV. Mitt. schweiz. ent. Ges., Berne 15 1931 pp. 39-44.

580.—Costa Lima, A. da. Notas sobre Culicidae. An. Mus. Hist. nat. Buenos Aires 36 1931 pp. 359-368, 13 figs. [Dipt.]

581.—Costa Lima, A. da. A proposito da *Acropyga pickeli* Borgm., 1927 (Hymenoptera; Formicoidea). Bol. biol., Rio de Janeiro fasc. 17 1931 pp. 2-8, 1 pl.

582.—Costa Lima, A. da. Sobre as especies dos generos *Sabethes* e *Sabethoides* (Diptera: Culicidae). Mem. Inst. Oswaldo Cruz, Rio de Janeiro 25 1931 pp. 51-64, 3 pls.

583.—Costa Lima, A. da. Nota sobre Sabethineos do grupo *Joblotia* (Diptera: Culicidae). Mem. Inst. Oswaldo Cruz, Rio de Janeiro 25 1931 pp. 65-71, 7 pls.

584.—Costa Lima, A. da. Sobre as especies de *Megarhinus* do Brasil (Diptera: Culicidae). Mem. Inst. Oswaldo Cruz, Rio de Janeiro 25 1931 pp. 307-315, 2 pls.

585.—Costa Lima, A. da. Coccinellideos mycophagos (Coccinellinae: Psylloborini). Rev. Ent., São Paulo 1 1931 pp. 428-430, 5 figs. [Col.]

586.—Cottier, W. The blue stem-borer of ragwort (*Homoeosoma vagella*). N.Z. J. Agric., Wellington 42 1931 pp. 333-337, 2 figs. [Lep.]

587.—Couch, J. N. The biological relationship between *Septobasidium retiforme* (B. & C.) Pat. and *Aspidiotus osborni* New. & Ckll. Quart. J. Micr. Sci., London 74 1931 pp. 383-437, 5 pls. 60 figs. [Hem.]

588.—Coulon, L. Catalogue systématique et biologique de la famille des Hyménoptères chalcidides du musée d'Elbeuf. (Collection européenne.) Bull. Soc. Sci. nat. Elbeuf 49 1931 pp. 73-86.

589.—Covell, G. The distribution of Anopheline mosquitoes in India and Ceylon: additional records, 1926-1930. Rec. Malaria Surv. India, Calcutta 2 1931 pp. 225-268. [Dipt.]

Covell, G. see Christophers, Sinton & Covell.

Craighead, F. C. see Böving & Craighead.

590.—Crampton, G. C. A criticism of the current theories concerning the origin of metamorphosis in insects, with suggestions for a theory based on mutation. Entomologist, London 64 1931 pp. 154-158, 171-174.

591.—Crampton, G. C. A claim for priority in dividing Pterygotan insects into two sections on the basis of the position of the wings in repose, with remarks on the relationships of the insect orders. Ent. News, Philadelphia 42 1931 pp. 130-136.

592.—Crampton, G. C. A phylogenetic study of the posterior metathoracic and basal abdominal structures of insects, with particular reference to the holometabola. J. New York Ent. Soc. 39 1931 pp. 323-347, 5 pls.

593.—Crampton, G. C. The genitalia and terminal structures of the male of the archaic Mecopteron, *Notiothauma reedi*, compared with related holometabola from the standpoint of phylogeny. Psyche, Boston 38 1931 pp. 1-21, 4 pls. [Fossil.]

Crescitelli, F. see Taylor & Crescitelli.

594.—Cresson, jr., E. T. Diptera of Patagonia and South Chile based mainly on material in the British Museum (Natural History). Part VI. Fasc. 2—Ephydriidae. London, Br. Mus. (Nat. Hist.) 1931 pp. 85-116.

595.—Cresson, jr., E. T. Notes on the *abstersa*-group of the genus *Tephritis*, and a description of a new species from California (Diptera: Trypetidae). Ent. News, Philadelphia 42 1931 pp. 3-5.

596.—Cresson, jr., E. T. Entomological literature. Ent. News, Philadelphia 42 1931 pp. 29-32, 59-63, 84-88, 119-122, 141-145, 172-176, 205-209, 232-238, 258-263, 288-291.

597.—Cresson, jr., E. T. Descriptions of new genera and species of the Dipterous family Ephydriidae. Ent. News, Philadelphia 42 1931 pp. 104-108, 168-170.

598.—Crèvecoeur, A. Note sur la biologie de l'*Oxybelus bipunctatus* Oliv. (Hym. Sphegidae). Bull. Ann. Soc. ent. Belg., Brussels 71 1931 pp. 187-192, 1 fig.

599.—Crèvecoeur, A. Le maraudage occasionnel tendance au cleptoparasitisme chez divers Psammocharidae (Hym.). Mém. Soc. ent. Belg., Brussels 23 1931 pp. 183-187.

600.—Crèvecoeur, A. & Maréchal, P. Matériaux pour servir à l'établissement d'un nouveau catalogue des Hyménoptères de Belgique. Bull. Ann. Soc. ent. Belg., Brussels 71 1931 pp. 101-116.

601.—Cros, A. Biologie des méloés. Ann. Sci. nat. (Zool.), Paris (10) 14 1931 pp. 189-227. [Col.]

602.—Cros, A. *Zonabris silbermanni* Chevrolat. La larve primaire. Bull. Soc. Hist. nat. Afr. N., Algiers 22 1931 pp. 80-88. [Col.]

603.—Cros, A. Notes biologiques sur les espèces algériennes du genre *Coryna* Billberg. Bull. Soc. Sci. nat. Maroc, Rabat 10 (1930) 1931 pp. 156-174, 3 pls. [Col.]

604.—Crozier, W. J. & Stier, T. J. B. Geotrupic orientation in Arthropods. I. *Malacosoma* larvae. II. *Tetraopes*. J. Gen. Physiol., Baltimore 11 1928 pp. 803-821, 10 figs.; 12 1929 pp. 675-693, 10 figs. [Lep., Col.]

605.—Csiki, E. Serropalpidae. Coleopt. Catalogus, Berlin 77 1924 62 pp.

606.—Csiki, E. Carabidae: Harpalinae V. Coleopt. Catalogus, Berlin 115 1931 pp. 739-1022.

607.—Culot, J. Fixation des papillons sur papier. Lambilliona, Brussels 31 1931 pp. 119-123.

608.—Curran, C. H. First supplement to the "Diptera of Porto Rico and the Virgin Islands." Amer. Mus. Nov., New York no. 456 1931 23 pp. 4 figs.

609.—Curran, C. H. New species of *Chrysopilus* from the Neotropical region (Rhagionidae, Diptera). Amer. Mus. Nov., New York no. 462 1931 9 pp.

610.—Curran, C. H. Descriptions of new species of *Diasemopsis* Rondani (Diopsidae, Diptera). Amer. Mus. Nov., New York no. 463 1931 17 pp.

611.—Curran, C. H. New species of Empididae from Panama. Amer. Mus. Nov., New York no. 467 1931 12 pp. [Dipt.]

612.—Curran, C. H. Diptera collected by Dr. A. Thienemann in Java. Amer. Mus. Nov., New York no. 474 1931 7 pp. 5 figs.

613.—Curran, C. H. New American Asilidae (Diptera), II. Amer. Mus. Nov., New York no. 487 1931 25 pp.

614.—Curran, C. H. Twelve new Diptera. Amer. Mus. Nov., New York no. 492 1931 13 pp. 7 figs.

615.—Curran, C. H. New African Calliphoridae (Diptera). Amer. Mus. Nov., New York no. 506 1931 22 pp.

616.—Curran, C. H. The Nearctic species of the Nemestrinid genus *Rhynchocephalus* Fischer (Diptera). Canad. Ent., Orillia 63 1931 pp. 68-72.

617.—Curran, C. H. Four new Diptera in the Canadian National Collection. Canad. Ent., Orillia 63 1931 pp. 93-98.

618.—Curran, C. H. Some new North American Diptera. Canad. Ent., Orillia 63 1931 pp. 249-254.

619.—Curran, C. H. Additional records and descriptions of Syrphidae from the Malay Peninsula. J. F.M.S. Mus., Kuala Lumpur 16 1931 pp. 290-338. [Dipt.]

620.—Curran, C. H. Records and descriptions of Syrphidae from North Borneo including Mt. Kinabalu. J. F.M.S. Mus., Kuala Lumpur 16 1931 pp. 339-376. [Dipt.]

621.—Curry, D. P. *Anopheles* (*Anopheles*) *neomaculipennis*. A new species of the *Arribalzagia* group of *Anopheles* from Panama. Amer. J. Hyg., Baltimore 13 1931 pp. 643-647, 3 figs. [Dipt.]

622.—Curry, D. P. Recognition of *Anopheles argyritarsis* by the characteristics of the male genitalia. Amer. J. Hyg., Baltimore 13 1931 p. 648. [Dipt.]

623.—Curtis, W. P. Life-history of *Leucania vitellina* Bdv. Trans. Ent. Soc. S. England, Southampton 7 1931 pp. 40-52. [Lep.]

624.—Curtis, W. P. The larva and pupa of *Teras contaminana* Hüb. Trans. Ent. Soc. S. England, Southampton 7 1931 pp. 53-55.

625.—Cuscianna, N. La cocciniglia del Susiano *Eulecanium corni* (Bouché) in Provincia di Trieste. Boll. Lab. Zool. Portici 24 1931 pp. 279-298, 7 figs. [Hem.]

626.—Cushman, R. A. Three new Braconidae parasitic on bark-beetles. J. Washington Acad. Sci. 21 1931 pp. 301-304.

627.—Cushman, R. A. Notes on Ichneumon-flies of the genus *Polycyrtus* with descriptions of new species. Proc. U.S. Nat. Mus., Washington, D.C. 78 art. 14 no. 2857 1931 62 pp. 8 figs. [Hym.]

628.—Cushman, R. A. Descriptions of thirteen new American and Asiatic Ichneumon-flies, with taxonomic notes. Proc. U.S. Nat. Mus., Washington, D.C. 79 art. 14 no. 2880 1931 16 pp. [Hym.]

629.—Czerny, L. Neottiophilidae. In LINDNER Flieg. Palaeark. Reg. 38b 1931 pp. 11-15, 14 figs.

630.—Czerny, L. Ergänzungen zu meiner Monographie der Helomyziden. Konowia, Vienna 10 1931 pp. 19-21. [Dipt.]

631.—Czerny, L. Einige neue Tyliden des Deutschen entomologischen Museums in Berlin-Dahlem. Konowia, Vienna 10 1931 pp. 21-26. [Dipt.]

632.—Czerny, L. *Encarsiocera pennipes*, eine neue Gattung und Art der Psiliden aus Arabien. Konowia, Vienna 10 1931 pp. 27-28. [Dipt.]

633.—Daguerre, J. B. Costumbres nupciales del *Diloboderus abderus* Sturm. Rev. Soc. ent. argent., B. Aires 3 1931 pp. 253-256, 2 figs. [Col.]

634.—Dahl, E. Några nya fjärlformer. Ent. Tidskr., Stockholm 51 1930 pp. 251-252, 1 pl. [Lep.]

635.—Dalla Torre, K. W. Katalog der bisher bekannt gewordenen Cymatophoriden. Ent. Jahrb., Leipzig 1919 pp. 100-106. [Lep.]

636.—Dalla Torre, K. W. Cossidae. Lepidopt. Catalogus, Berlin 29 1923 63 pp.

637.—Dalla Torre, K. W. Epiplemidæ 38 pp. Uraniidæ 17 pp. Lepidopt. Catalogus, Berlin 30 1924.

638.—Dalla Torre, K. W. & Strand, E. Lepidarbelidae. Lepidopt. Catalogus, Berlin 28 1923 10 pp.

639.—Dalla Torre, K. W. & Voss, E. Curculionidae: Archolabinae, Attelabinae (pp. 1-42), Apoderinae (pp. 1-42). Coleopt. Catalogus, Berlin 110 1930.

640.—Dallas, E. D. Cópula entre Calosomas de diferentes especies. Rev. Soc. ent. argent., B. Aires 3 1931 pp. 219-224, 3 figs. [Col.]

Dammers, C. M. see Comstock & Dammers.

Danielczick see Murr.

Darling, R. C. M. see Johnston & Darling.

640a.—Darlington, jr., P. J. On some Carabidae, including new species, from the mountains of North Carolina and Tennessee. Psyche, Boston 38 1931 pp. 145-164. [Col.]

641.—Davidson, J. & Bald, J. G. Sex determination in *Frankliniella insularis* Franklin (Thysanoptera). Austr. J. Exptl. Biol. Med. Sci., Adelaide 8 1931 pp. 139-142.

642.—Davidson, R. H. The alimentary canal of *Crioceris asparagi* Linn. Ohio J. Sci., Columbus 31 1931 pp. 396-405, 2 pls. [Col.]

Davidson, R. H. see DeLong & Davidson.

643.—Davis, J. G. & Slater, W. K. The aerobic and anaerobic metabolism of the common cockroach (*Periplaneta orientalis*). III. Biochem. J., Cambridge 22 1928 pp. 331-337. [Orth.]

644.—Dawson, R. W. Report of two cases of metathetely in *Polyphemus* larvae (*Telea polyphemus* Cramer) (Lep.: Saturniidae). Ent. News, Philadelphia 42 1931 pp. 125-126 1 pl.

645.—Dawson, R. W. The problem of voltinism and dormancy in the *Polyphemus* moth (*Telea polyphemus* Cramer). J. Exp. Zool., Philadelphia 59 1931 pp. 87-131, 7 figs. [Lep.]

646.—Day, F. H. Field notes on Cumberland water-beetles. The genus *Agabus* Leach. Ent. Mon. Mag., London 67 1931 pp. 12-16. [Col.]

647.—Dean, J. D. An analysis of certain records relative to the migration of *Agrius* (= *Sphinx*) *convolvuli* Linné. Ent. Mon. Mag., London 67 1931 pp. 31-35, 2 pls. [Lep.]

648.—Deane, C. Trichopterygidae of Australia and adjacent Islands. Descriptions of five new genera and twenty new species. Proc. Linn. Soc. N.S.W., Sydney 66 1931 pp. 227-242, 23 figs. [Col.]

649.—Deane, C. Australian Hydrophilidae; notes and new species. Proc. Roy. Soc. Vict., Melbourne 43 1931 pp. 166-176, 2 figs. [Col.]

650.—Deane, C. Water-beetles and flight. Vict. Nat., Melbourne 48 1931 pp. 13-14, 1 fig. [Col.]

651.—De Carlo, J. A. Una nueva especie del género *Lethocerus* y el alotipo de *Lethocerus delpontei* (Hem. Belostomidae). Rev. Soc. ent. argent., B. Aires 3 1931 pp. 217-218.

652.—Decary, R. Chasses aux papillons à Madagascar. Amat. Papillons, Paris 5 1931 pp. 271-274, 281-291, 304-307.

653.—Decker, G. C. The biology of the stalk borer *Papaipema nebris* (Gn.). Res. Bull. Iowa Agric. Expt. Sta., Ent. Sect., Ames no. 143 1931 pp. 291-351, 22 figs. [Lep.]

654.—Delage, —. Coloration et pigments chez les insectes. Misc. ent., Castanet-Tolosan 33 1931 pp. 57-88, 3 pls.

655.—Del Guercio, G. I punteruoli più importanti dell'olivo. Redia, Florence 19 1931 pp. 1-74, 35 figs. [Col.]

656.—Del Guercio, G. Il pidocchio nero, ver noir o Barban dell'olivo (*Phloeothrips oleae* Costa) ed i suoi rapporti con i punteruoli. Redia, Florence 19 1931 pp. 75-195, 37 figs. [Thysanopt.]

657.—Del Guercio, G. Osservazioni intorno al gen. *Anuraphis* Del Guercio. Redia, Florence 19 1931 pp. 309-501, 10 figs. [Hem.]

658.—DeLong, D. M. A successful method for sampling populations of quick-moving insects. J. Econ. Ent., Geneva, N.Y. 24 1931 pp. 1108-1109.

659.—DeLong, D. M. The most important species of leaf-hoppers affecting the apple. J. Econ. Ent., Geneva, N.Y. 24 1931 pp. 1214-1222, 3 figs. [Hem.]

660.—DeLong, D. M. A revision of the American species of *Empoasca* known to occur north of Mexico. Tech. Bull. U.S. Dept. Agric., Washington D.C. 231 1931 59 pp. 11 figs. [Hem.]

661.—DeLong, D. M. & Davidson, R. H. The genus *Agallia*—external characters used to distinguish the species injuring economic crops. Ohio J. Sci., Columbus 31 1931 pp. 377-384, 1 pl. 1 fig. [Hem.]

662.—Demaision, L. La courtilière dans la Grèce antique. Bull. Soc. ent. Fr., Paris 1931 pp. 273-274. [Orth.]

663.—De Meillon, B. Notes on the larvae of some South African Anophelines. Bull. Ent. Res., London 22 1931 pp. 237-243, 7 figs. [Dipt.]

664.—De Meillon, B. A new South African Anopheline. J. Med. Assoc. S. Africa, Cape Town 5 1931 pp. 482-483. [Dipt.]

665.—De Meillon, B. Illustrated keys to the full-grown larvae and adults of South African Anopheline mosquitos. Pub. S. Afr. Inst. Med. Res., Johannesburg 28 1931 pp. 275-375, 40 pls. [Dipt.]

666.—De Meillon, B. A new species of *Forcipomyia* (Diptera, Ceratopogonidae) from the Transvaal, with a description of its early stages. Trans. Ent. Soc. London 79 1931 pp. 335-340, 17 figs.

667.—Demel, K. Notes orthoptérologiques. [In Polish with French summary.] Arch. Biol. Soc. Sci. Varsovie 1 no. 7 1922 pp. 1-4.

668.—Demianovskii, S. Ya. Fütterungsversuch von Seidenraupen mit Drüsen inneren Sekretion. [In Russian with German summary.] Bull. Centr. Silk Worm Culture Sta., Moscow 4 1930 pp. 143-162. [Lep.]

669.—Demianovskii, S. & Rakovska, M. Zur Frage nach dem Ursprung der natürlichen Färbung der Seiden Kokone. [In Russian.] Arb. Moskau. ForschSta. Seide u. Seidenraupenzucht 3 1928 no. 1-4 pp. 117-125. [Lep.]

670.—Denielou, A. La vie larvaire des Cicindèles. La Nature, Paris 1931 pp. 438-439, 3 figs. [Col.]

671.—Denis, J. R. Collemboles de Costa Rica avec une contribution au species [sic] de l'ordre. Boll. Lab. Zool. Portici 25 1931 pp. 69-170, 211 figs.

672.—Denis, J. R. Sur la faune italienne des Collembolés, IV. Note préliminaire. Collembolés récoltés dans les grottes d'Italie par Monsieur L. Boldori. Mem. Soc. ent. ital., Genoa 10 1931 pp. 80–85.

673.—Denis, J. R. Collembolés des collections C. Schäffer et du Zoologisches Staatsinstitut und Zoologisches Museum in Hamburg. Mitt. zool. Mus. Hamburg 44 1931 pp. 197–242, 17 figs.

674.—Derenne, F. *Lycaena* (*Polyommatus*) *icarus* Rottenburg, *icarinus* Scriba, *thersites* Cantener et *alexius* Freyer. Lambillionea, Brussels 31 1931 pp. 5–14. [Lep.]

675.—Derenne, F. Hermaphrodisme chez les Lépidoptères. Lambillionea, Brussels 31 1931 pp. 73–74.

676.—Derenne, F. et al. Formes nouvelles pour la faune belge. Lambillionea 31 1931 pp. 3, 98, 116–117.

Devrient, W. *see* Parfentjev & Devrient.

Dibb, J. R. *see* Hincks & Dibb.

677.—Dickman, A. Studies on the intestinal flora of termites with reference to their ability to digest cellulose. Biol. Bull., Woods Hole, Mass. 61 1931 pp. 85–92. [Isopt.]

678.—Didier, R. Etudes sur les Coléoptères Lucanides du globe. XI–XV. Paris, P. André, fasc. 7 1930 pp. 141–172; 8 1931 pp. 173–204; 9 1931 pp. 205–232, 1 pl. 111 figs.

679.—Dietrich, H. Synonymy and notes on the *Pissodes* weevil attacking *Cedrus deodara*. J. Econ. Ent., Geneva, N.Y. 24 1931 pp. 872–874. [Col.]

680.—Dieuzeide, R. Contribution à l'étude des néoplasmes végétaux. Le rôle des pucerons en phytopathologie. Act. Soc. linn. Bordeaux 81 1929 pp. 1–246, 64 figs. [Hem.]

681.—Dieuzeide, R. Une Cécidomyie du *Tamarix africana* Poiret (*Amblardiella tamaricum* Kieffer) et ses parasites. Bull. Soc. Hist. nat. Afr. N., Algiers 22 1931 pp. 261–270, 2 pls. 1 fig. [Dipt., Hym.]

682.—Diószeghy, L. v. Beiträge zur Lepidopterenfauna des Retezat-Gebirges. Pub. Muzeului jud. Hunedoara, Deva 27 1930 no. 2 pp. 5–27.

683.—Dixey, F. A. Relation of locality to seasonal forms. Proc. Ent. Soc. London 6 1931 pp. 1–2. [Lep.]

684.—Dixey, F. A. Development of wings in Lepidoptera. Trans. Ent. Soc. London 79 1931 pp. 365–393, 19 figs.

685.—Djakonov, A. M. Berichtigung- und Zusätze zur Geometriden Fauna des Minussinsk Bezirks. [In Russian and German.] Jahrb. Martj. Staatsmus. Minussinsk. 5 1927 pp. 53–58. [Lep.]

Djukov *see* Dyukov.

686.—Dmitriev, G. V. Scarabaeid beetles of the Penza Province. [In Russian.] Penza State Regional Museum 1926 22 pp. [Col.]

687.—Dobrosky, I. D. Morphological and cytological studies on the salivary glands and alimentary tract of *Cicadula sexnotata* (Fallen), the carrier of aster yellows virus. Contrib. Boyce Thompson Inst., Wisconsin 3 1931 pp. 39–58, 7 figs. [Hem.]

688.—Dob[r]zhansky, T. Interaction between female and male parts in gynandromorphs of *Drosophila simulans*. Arch. Entw.-Mech. Org., Berlin 123 1931 pp. 719–746, 6 figs. [Dipt.]

689.—Dob[r]zhansky, T. Translocations involving the second and the fourth chromosomes of *Drosophila melanogaster*. Genetics, Menasha 16 1931 pp. 629–658, 2 pls. 2 figs. [Dipt.]

690.—Dob[r]zhansky, T. The North American beetles of the genus *Coccinella*. Proc. U.S. Nat. Mus., Washington D.C. 80 art. 4 no. 2904 1931 32 pp. 30 figs. [Col.]

691.—Dodd, A. P. The genus *Oxyscelio* Kieffer, its synonymy and species, with a description of one new genus (Hymenoptera: Proctotrypoidea). Proc. Roy. Soc. Queensland, Brisbane 42 (1930) 1931 pp. 71–81.

Dodin, L. *see* Viaud & Dodin.

692.—Doering, K. C. Some biological notes on the Cercopidae north of Mexico (Homoptera). J. Kansas Ent. Soc., McPherson 4 1931 pp. 48–51.

693.—Doi, H. A list of Rhopalocera from Mount Shouyou, Keika-Do, Korea. J. Chosen Nat. Hist. Soc. 12 1931 pp. 42–47, 2 figs. [Lep.]

694.—Dolley, jr., W. L. Dark adaptation of the eye of *Eristalis tenax*. Physiol. Zool., Chicago 2 1929 pp. 483–490, 1 fig. [Dipt.]

695.—Donisthorpe, H. Descriptions of some new species of ants. *Ann. Mag. Nat. Hist.*, London (10) 8 1931 pp. 494–501. [Hym.]

696.—Donisthorpe, H. St. J. An annotated list of the additions to the British Coleopterous fauna, made since the publication of the supplementary volume (VI) of Fowler's "Coleoptera of the British Isles" [contd.]. *Ent. Mon. Mag.*, London 67 1931 pp. 22–30, 68–75, 119–126, 164–175, 8 pls.

697.—Donisthorpe, H. Coleoptera, etc., in moorhens' and swans' nests. *Ent. Rec.*, London 43 1931 p. 177.

698.—Döring, E. Sammelergebnisse im Jahre 1931 rings um den Kiekelhahn. *Int. ent. Z.*, Guben 25 1931 pp. 289–294. [Lep.]

699.—Dorst, H. E. Studies on the genus *Cicadula* (Homoptera, Cicadellidae). *J. Kansas Ent. Soc.*, McPherson 4 1931 pp. 39–48, 1 pl.

700.—le Doux, C. Neue Acraeinae aus Afrika und Madagaskar (Lepidopt. Rhopal.). *Deuts. ent. Z.*, Berlin 1931 pp. 49–59.

701.—le Doux, C. Acraeen-Studien IV. *Mitt. zool. Mus. Berlin* 17 1931 pp. 239–272, 2 pls. [Lep.]

702.—Dover, C. The Vespidae of the Federated Malay States Museums. *J. F.M.S. Mus.*, Kuala Lumpur 16 1931 pp. 251–260. [Hym.]

703.—Dover, C. Effects of inadequate feeding on insect metamorphosis. *Nature*, London 128 1931 pp. 303–304.

704.—Dovnar-Zapolskii, D. Ein Uebersicht über die Blattwespen (Chalastogastra) des Nord-Kaukasischen Gebietes. [In Russian with German summary.] *Bull. N. Cauc. Plant Prot. Sta.*, Rostov-on-Don 6–7 1930 pp. 33–62, 10 figs. [Hym.]

705.—Dovnar-Zapolskii, D. Cephiden-Studien (Hymenoptera, Chalastogastra) (I. Beitrag). *Ann. Mus. zool. Acad. Leningrad* 32 1931 pp. 37–49.

706.—Dow, R. Two new Mutillidae from the West Indies. *Occ. Pap. Boston Soc. Nat. Hist.* 8 1931 pp. 1–4. [Hym.]

707.—Dow, R. Odonata from Santa Clara, Cuba. *Proc. Biol. Soc. Washington* 44 1931 pp. 55–60.

708.—Dozier, H. L. A new giant wax scale from Haiti. *Amer. Mus. Nov.*, New York no. 495 1931 2 pp. 1 fig. [Hem.]

709.—Dozier, H. L. New and interesting West Indian Homoptera. *Amer. Mus. Nov.*, New York no. 510 1931 24 pp. 18 figs.

710.—Dozier, H. L. A new Scelionid egg parasite of the black widow spider. *Proc. Ent. Soc. Washington* 33 1931 pp. 27–28. [Hym.]

Dozier, H. L. *see* Arndt & Dozier.

711.—Drabaty, I. Die postembryonale Entwicklung der Thoraxanhänge bei der Honigbiene *Apis mellifica* L. *Arch. Bienenkunde*, Neumünster i. Holstein 11 1930 pp. 129–182, 6 pls. 22 tables 70 figs. [Hym.]

712.—Draeseke, J. Die Schmetterlinge der Stötznerschen Ausbeute. *Nachtrag. Iris*, Dresden 45 1931 pp. 73–78. [Lep.]

713.—Drake, C. J. The Cornell University entomological expedition to South America, 1919 and 1920, scientific results, number 5, Hemiptera-Tingitidae. *Ann. Ent. Soc. Amer.*, Columbus 24 1931 pp. 510–514.

714.—Drake, C. J. Neotropical Tingitidae (Hemiptera). *Ann. Mag. Nat. Hist.*, London (10) 8 1931 pp. 225–227, 1 pl.

715.—Drake, C. J. Concerning the genus *Leptodictya* Stål (Hemiptera, Tingitidae). *Bol. Mus. nac.*, Rio de Janeiro 7 1931 pp. 119–122.

716.—Drake, C. J. Two new species of *Tigava* from South America (Hemiptera-Tingitidae). *Proc. Hawaii. Ent. Soc.* 1929–30, Honolulu 7 1931 pp. 405–406.

717.—Drake, C. J. & Harris, H. M. Further notes on the genus *Rhagovelia*. Hemiptera, Veliidae. *Pan-Pacific Ent.*, San Francisco 8 1931 pp. 33–35.

718.—Draudt, M. *In* SEITZ Gross-Schmett. 1931. Sphingidae 6 pp. 841–896, 22 pls.; Epicopeidae p. 51, Syntomidae pp. 53–60, 1 pl., Arctiidae pp. 61–80, 3 pls. Suppl. 2; Phalaenae, Noctuidiform moths Suppl. 3 pp. 1–22, 1 pl.

719.—Draudt, M. Neue Amatiden des amerikanischen Faunengebietes. *Ent. Rds.* Stuttgart 48 1931 pp. 33–36, 45–48, 57–59. [Lep.]

720.—Draudt, M. Neue mexikanische Tagfalterformen. Ent. Rdsch., Stuttgart 48 1931 pp. 103–104. [Lep.]

721.—Draudt, M. Beitrag zur Kenntnis der Gattung *Palluperina* Hmps. und Beschreibung einer neuen Art. Ent. Rdsch., Stuttgart 48 1931 pp. 125–132, 3 pls. [Lep.]

722.—Drenowski, A. K. Uebt die Meeresnachbarschaft einen Einfluss auf die Höhenverteilung der Gebirgslepidopteren in Bulgarien aus? Deuts. ent. Z., Berlin 1930 1931 pp. 179–192, 1 map. Also in Bulgarian in Mitt. bulgar. ent. Ges., Sofia 6 1931 pp. 142–152.

723.—Drenowski, A. K. Zweiter Verzeichnis der auf dem Alibotuschgebirge gesammelten Lepidopteren (in bulgar. N.O. Mazedonien). [In Bulgarian with German summary.] Mitt. bulgar. ent. Ges., Sofia 6 1931 pp. 49–67.

724.—Drenski, P. Ueber die Biologie des Wiesenzünlers, *Loxostege (Phlyctaenodes) sticticalis* L., in Bulgarien während der Jahre 1929–1930. [In Bulgarian with German summary.] Mitt. bulgar. ent. Ges., Sofia 6 1931 pp. 31–48. [Lep.]

725.—Driessche, J. van. Quelques zoocécidies de Yougoslavie. Ann. Gembloux, Brussels 37 1931 pp. 350–354, 4 figs. [Hym.]

726.—Driggers, B. F. & Pepper, B. B. *Macrocentrus ancylivora* Rohr. and *M. delicatus* Cress. distinct species. Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 293–300, 1 pl. [Hym.]

727.—Du Bois, A. M. Morphologische Untersuchungen über die Entwicklung des Kopulationsapparates der intersexuellen Weibchen von *Lymantria dispar* L. Arch. Entw.Mech. Org., Berlin 124 1931 pp. 93–137, 44 figs. [Lep.]

728.—Duda, O. Chloropidae, Drosophilidae. Dipterologischer Beitrag zu der von H. J. Feuerborn, F. Ruttnier und A. Thienemann im Jahre 1928 und 1929 nach Java, Sumatra und Bali untergenommenen limnologischen Forschungsreise. Arch. Hydrobiol., Stuttgart Suppl. 9 1931 pp. 192–198.

729.—Duda, O. Die neotropischen Chloropiden (Dipt.). Folia zool. hydrobiol., Riga 3 1931 pp. 159–172.

730.—Duffield, C. A. W. Notes on Auchenorhynchous Homoptera (1). Ent. Mon. Mag., London 67 1931 pp. 37–38.

731.—Dumont, C. Contribution à l'étude des Lépidoptères du Nord de l'Afrique (suite). Bull. Soc. ent. Fr., Paris 1931 pp. 12–14, 2 figs., pp. 21–24, 2 figs.; 147–153, 2 figs.

732.—Dunham, W. E. A colony of bees exposed to high external temperatures. J. Econ. Ent., Geneva, N.Y. 24 1931 pp. 606–611, 2 pls. 1 chart. [Hym.]

733.—Dunham, W. E. Hive temperatures for each hour of a day. Ohio J. Sci., Columbus 31 1931 pp. 181–188, 1 fig.

734.—Dunning, W. F. A study of the effect of X-ray radiation on occurrence of abnormal individuals, mutation rate, viability and fertility of the parasitic wasp, *Habrobracon juglandis* (Ashmead). Genetics, Menasha 16 1931 pp. 505–531, 1 pl. [Hym.]

735.—Dupont, L. Le peuplement de l'Europe et du bassin méditerranéen par les Lépidoptères asiatiques d'après le Dr. R. Vérité. C.R. Soc. Biogéogr., Paris 8 1931 pp. 14–16.

736.—Dury, R. Notes on a collection of beetles of the tribe Cychrini from the Great Smoky Mts. of Tennessee and North Carolina. Proc. Junior Soc. Nat. Sci., Cincinnati 2 1931 pp. 17–20. [Col.]

737.—Dusmet y Alonso, J. M. Contribucion al estudio de los Himenópteros de Portugal. Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 52 1931 9 pp.

738.—Dustan, G. G. A handy type of oviposition cage. Canad. Ent., Orillia 63 1931 pp. 273–275, 2 figs.

Dyukov, N. N. see Frantzi & Dyukov.

739.—Dziedzicki, H. Revue des espèces européennes du genre *Anatella* Winnertz avec la description des deux genres nouveaux: *Heteropygium* et *Allophallus*. [In Polish with Latin descriptions.] Discipin. biol. Arch. Soc. sci. Varsaviensis, Lemburg 1 (1922) 1923 fasc. 15 8 pp. 2 pls. [Dipt.]

Eagleson, C. W. see Richardson, Burdette & Eagleson.

740.—Earl, H. L. The genus *Erebia*. Trans. Proc. Torquay Nat. Hist. Soc. **6** 1931 pp. 67–69. [Lep.]

741.—Ebner, R. Zoologische Studien am Obir. (Mit besonderer Berücksichtigung der Orthopteren.) Carinthia II, Klagenfurt **37–38** 1928 pp. 49–55.

742.—Ebner, R. Einige Orthopteren von Mallorca. Bol. Soc. esp. Hist. nat., Madrid **31** 1931 pp. 497–503, 3 figs.

743.—Eckstein, F. Ueber Immunität bei Insekten. Anz. Schädlingssk., Berlin **7** 1931 pp. 49–55, 13 figs.

744.—Eckstein, K. & Butovitsch, V. Beitrag zur Kenntnis der Fauna der Kiefernkahtschläge. Z. angew. Ent., Berlin **13** 1931 pp. 615–633.

745.—Eddy, C. O. & Nettles, W. C. The bean leaf beetle. Bull. S. Carolina Agric. Expt. Sta., Clemson Coll. **265** 1930 25 pp. 8 figs. [Col.]

746.—Eddy, M. W. Recovery from immersion in water. An index of metabolism and the condition of the gonads in *Drosophila melanogaster* and *Popillia japonica* Newm. J. Morph., Philadelphia **51** 1931 pp. 435–465, 12 figs. [Dipt., Col.]

747.—Edmonds, T. H. The British species of the genus *Scopaeus* Er. (Coleoptera, Staphylinidae). Ent. Mon. Mag., London **67** 1931 pp. 272–275.

748.—Edwards, F. W. Insects inhabiting birds' nests. Trans. Herts. Nat. Hist. Soc., Hertford **18** 1925 pp. 132–133.

749.—Edwards, F. W. Diptera of Patagonia and South Chile based mainly on material in the British Museum (Natural History). Part II. Fasc. 1—Simuliidae. London, Br. Mus. (Nat. Hist.) 1931 pp. 121–154, 13 figs.

750.—Edwards, F. W. New Neotropical Nematoceros Diptera. Ann. Mag. Nat. Hist., London (10) **7** 1931 pp. 259–261.

751.—Edwards, F. W. Some suggestions on the classification of the genus *Tipula* (Diptera, Tipulidae). Ann. Mag. Nat. Hist., London (10) **8** 1931 pp. 73–82.

752.—Edwards, F. W. Oxford University Greenland Expedition, 1928.—Diptera Nematocera. Ann. Mag. Nat. Hist., London (10) **8** 1931 pp. 617–618.

753.—Edwards, F. W. Diptera Nematocera from the Lowlands of North Borneo. J. F.M.S. Mus., Kuala Lumpur **16** 1931 pp. 486–504, 5 figs.

754.—Edwards, F. W. Die Ausbeute der deutschen Chaco-Expedition 1925–26.—Diptera. XXIII. Bibionidae and XXIV. Mycetophilidae. Konowia, Vienna **10** 1931 pp. 75–78.

755.—Edwards, F. W. Gynandromorphs and Mermithogynes in Nematoceros Diptera. Proc. Ent. Soc. London **6** 1931 pp. 40–41.

756.—Edwards, F. W. Fauna sumatrensis Mycetophilidae; Bibionidae, Scatopsidae, Anisopodidae (Diptera). Tijdschr. Ent., Amsterdam **74** 1931 pp. 262–278, 14 figs., 279–280.

Edwards, F. W. see Brug & Edwards; Sjöstedt et al; Thomas et al.

757.—Eecke, R. van. Beschrijving der ontwikkelingsstadia van *Thosea asigna* v.E. Zool. Meded., Leiden **13** 1930 pp. 224–225, 1 fig. [Lep.]

758.—Eecke, R. van. A new Lasio-campid from the Tengger Mountains, E. Java. Zool. Meded., Leiden **14** 1931 pp. 52–53, 1 fig. [Lep.]

759.—Eggers, H. Borkenkäfer (Ipidae, Col.) aus Südamerika. III. [Contd.] Ent. Bl., Berlin **27** 1931 pp. 14–23.

760.—Eggers, H. Zur Synonymie der Borkenkäfer (Ipidae, Col.). II. Wien. ent. Ztg. **47** 1931 pp. 184–186.

761.—Eggers, H. Borkenkäfer (Ipidae, Col.) aus Südamerika. IV. Wien. ent. Ztg. **48** 1931 pp. 29–42.

762.—Eggleton, F. E. A limnological study of the profundal bottom fauna of certain fresh water lakes. Ecological Monog., Durham, N.C. **1** 1931 pp. 231–332, 63 figs.

763.—Ehrhardt, S. Ueber Arbeits-teilung bei *Myrmica*- und *Messor*-Arten. Z. Morph. Oekol. Tiere, Berlin **20** 1931 pp. 755–812, 13 figs. [Hym.]

764.—Eidam, P. Bemerkenswerte und neue Caraben der Sammlung Leonhard (Dahlem). Wien. ent. Ztg. **48** 1931 pp. 77–80. [Col.]

765.—Eidmann, H. Die Kolonie-gründung von *Lasius flavus* F. nebst weiteren Untersuchungen über die Koloniegründung der Ameisen. Biol. Zbl., Leipzig **51** 1931 pp. 657–677, 2 figs. [Hym.]

766.—Eidmann, H. Morphologische und physiologische Untersuchungen am weiblichen Genitalapparat der Lepidopteren. II. Physiologischer Teil. Z. angew. Ent., Berlin 18 1931 pp. 57–112, 9 figs.

767.—Eigenbrodt, H. J. The somatic effects of temperature on a homozygous race of *Drosophila*. Physiol. Zool., Chicago 3 1930 pp. 392–411, 6 figs. [Dipt.]

768.—Eisenhardt, W. *Parnassius* of the World. Bull. Brooklyn Ent. Soc. 26 1931 pp. 39–44. [Lep.]

Eisner, C. see Bryk & Eisner.

769.—Ekblom, T. Hemipteren aus dem Sarekgebiet. Naturwiss. Untersuch. Sarekgeb. Schwed. Lappl., Stockholm 4 Zool. 1931 pp. 939–948, 2 figs.

770.—Ekblom, T. & Ströman, R. Geographical and biological studies on the Swedish Anophelines from an epidemiological point of view. C.R. 2^e Congr. internat. Paludisme Alger 1930 1 1931 pp. 256–276, 9 figs. [Dipt.]

771.—Ekström, M. Gotländska fjärlar. Ent. Tidskr., Stockholm 51 1930 pp. 58–72. [Lep.]

772.—Elliott, E. A. New Stephanidae from Peru. Entomologist, London 64 1931 pp. 97–98. [Hym.]

773.—Elston, A. H. Results of Dr. E. Mjöberg's Swedish scientific expeditions to Australia 1910–1913. 50. Elateridae. Ark. Zool., Stockholm 22A 1931 no. 1 22 pp. [Col.]

774.—Elton, C. Notices of publications on animal ecology. J. Ecology, London 16 1928 pp. 172–177, 399–411; 17 1929 pp. 161–169; 18 1930 pp. 166–173, 386–392; 19 1931 pp. 200–208, 483–492.

775.—Eltringham, H. An improved air-pump for laboratory use. Proc. Ent. Soc. London 5 1931 p. 69.

776.—Eltringham, H. On the structure of the compound eye of *Aleurodes brassicae*, Walk. (Hemiptera). Trans. Ent. Soc. London 79 1931 pp. 431–435, 1 pl. 1 fig.

777.—Eltringham, H. On some peculiarities of the abdominal structure in certain male Trichoptera. Trans. Ent. Soc. London 79 1931 pp. 529–544, 2 pls. 3 figs.

778.—Emden, F. van. Ueber Leben, Fang und Konservierung der Carabidenlarven, nebst einer kurzen Bestimmungstabelle ihrer in Mitteleuropa vorkommenden Gattungen. Ent. Jahrb., Leipzig 1921 pp. 121–137. [Col.]

779.—Emden, F. van. Ueber die Gattung *Polymerius* R. A. Phil. Rev. chil. Hist. nat., Santiago de Chile 34 1930 pp. 262–265, 1 fig. [Col.]

780.—Emden, F. van. Die Megalopterenlarven der Deutschen Limnologischen Sunda-Expedition. Ein Beitrag zur Systematik der Neuropterenlarven. Arch. Hydrobiol., Stuttgart Suppl. 9 1931 pp. 47–58, 13 figs. [Neur.]

781.—Emden, F. van. Zur Kenntnis der Sandalidae XI–XVI. Ent. Bl., Berlin 27 1931 pp. 49–59, 107–116, 145–152 1 pl. 5 figs. [Col.]

782.—Emden, F. van. Die Sandaliden des Congo-Museums. Rev. Zool. Bot. afr., Brussels 20 1931 pp. 183–185. [Col.]

783.—Emden, F. van. Beschreibung der Larve von *Telephanus costaricensis* Neverm. Stettin. ent. Z. 92 1931 pp. 113–117, 3 figs. [Col.]

784.—Emden, F. van. Zur Kenntnis der Morphologie und Oekologie des Brotkäfer-Parasiten *Cephalonomia quadridentata* Duchaussoy. Z. Morph. Oekol. Tiere, Berlin 23 1931 pp. 425–574, 1 pl. 53 figs. [Hym.]

785.—Enderlein, G. Das System der Kriebelmücken (Simuliidae). Deuts. Tier. Wochenschr., Hanover 29 1921 pp. 197–200. [Dipt.]

786.—Enderlein, G. *Aphopeas*, eine neue Tabanidengattung von Neu-Seeland. SitzBer. Ges. naturf. Fr. Berlin 1930 pp. 102–103. [Dipt.]

787.—Enderlein, G. Die Insektenfauna Süd-Georgiens. SitzBer. Ges. naturf. Fr. Berlin 1930 235–251. 7 figs.

788.—Enderlein, G. Die Insektenfauna der Campbell-Insel. SitzBer. Ges. naturf. Fr. Berlin 1930 pp. 251–257.

789.—Enderlein, G. Die Insektenfauna der Macquarie-Insel. SitzBer. Ges. naturf. Fr. Berlin 1930 pp. 258–263, 4 figs.

790.—Enderlein, G. Klassifikation der Pantophthalmiden. SitzBer. Ges. naturf. Fr. Berlin 1930 1931 pp. 361–376, 4 figs. [Dipt.]

791.—Enderlein, G. Die von Dr. Erich Schmidt in Alger gesammelten Tabaniden. SitzBer. Ges. naturf. Fr. Berlin 1930 1931 pp. 376–385, 2 figs. [Dipt.]

792.—Enderlein, G. Zur Beurteilung und Bekämpfung der Kriebelmücken-Schäden des Leinegebietes. Arch. wiss. prakt. Tierhkl., Berlin 63 1931 pp. 475–528, 11 figs. [Dipt.]

793.—Enderlein, G. Die Copeognathen-Fauna der Seychellen. Trans. Linn. Soc. London (2) Zool. 19 1931 pp. 207–240, 3 pls. 52 figs. [Psocopt.]

794.—Enderlein, G. Entomologica Canaria viii. *Aneurys tagastei*, eine neue Aradide. Zool. Anz., Leipzig 93 1931 pp. 193–198, 10 figs. [Hem.]

795.—Engel, E. O. Empididae (Dipt.) aus Java. Arch. Hydrobiol., Stuttgart Suppl. 8 1931 pp. 486–489, 2 figs.

796.—Engel, O. Die Ausbeute der deutschen Chaco-Expedition 1925–26. Diptera. XXVI. Anthomyidae, XXVII. Muscidae. XXVIII. Sarcophagidae. Konowia, Vienna 10 1931 pp. 133–154, 6 pls.

797.—England, H. W. A bibliographical note on a copy of Wiedemann's "Diptera Exotica," 1820–1821. Ann. Mag. Nat. Hist., London (10) 8 1931 pp. 613–615.

798.—Enriques, C. M. Malaya. London, Hurst & Blackett, Ltd. 1927 xvi + 303 pp. 32 pls. 2 maps. [Insecta pp. 48–66, 4 pls.]

799.—Enriques, P. Nucleo e citoplasma nell'eredità: un equivoco tradizionale. Arch. zool., Torino 15 1931 pp. 259–266. [Lep.]

800.—Enslin, E. Die europäischen *Diprion*- (*Lophyrus*)-Arten. Naturwiss. Z. Forst- u. Landwirt., Stuttgart 14 1916 pp. 1–20, 1 pl. [Hym.]

801.—Erhardt, A. Die Verwandtschaftsbestimmungen mittels der Immunitätsreaktionen in der Zoologie und ihr Wert für phylogenetische Untersuchungen. Ergebn. Zool., Jena 7 1931 pp. 279–377. [Insects pp. 295–299.]

802.—Esaki, T. Uebersicht über die Insektenfauna der Bonin (Ogasawara)-Inseln, unter besonderer Berücksichtigung der zoogeographischen Faunencharaktere. Bull. Biogeogr. Soc. Japan, Tokyo 1 1930 pp. 206–226.

803.—Esaki, T. Hemiptera-Heteroptera von der Insel Botol-Tobago (Kôtôsho), Süd-Formosa. [In Japanese with German summary.] Bull. Biogeogr. Soc. Japan, Tokyo 2 1931 pp. 209–220, 3 figs.

804.—Esaki, T. Undescribed Hemiptera from Japan and Formosa. Annot. zool. jap., Tokyo 13 1931 pp. 259–269, 8 figs.

805.—Esaki, T. & Hashimoto, S. Report on the leafhoppers injurious to the rice plant and their natural enemies, II. [In Japanese.] Pub. Ent. Lab. Kyushu Imp. Univ., Fukuoka no. 2 1931 59 pp. 5 pls. [Col., Hem., Hym.]

806.—Esaki, T. & Takeya, C. Identification of a Japanese Tingitid injurious to the pear tree. [In Japanese and English.] Mushi (J. Fukuoka Ent. Soc.), Fukuoka 4 1931 pp. 51–59, 3 pls. 2 figs. [Hem.]

Esaki, T. see Uvarov, B. P.; Nagano & Esaki.

807.—Esben-Petersen, P. Wissenschaftliche Ergebnisse der mit Unterstützung der Akademie der Wissenschaften in Wien aus der Erbschaft Treitl von F. Werner unternommenen zoologischen Expedition nach dem anglo-ägyptischen Sudan (Kordofan) 1914. XXVII. Neuropteren. Denkschr. Akad. Wiss. Wien 102 1931 pp. 201–206, 5 figs.

808.—Esben-Petersen, P. *Aeschna subarctica* Walk. i Danmark. [In Danish with English summary.] Ent. Medd., Copenhagen 17 1931 pp. 337–340, 2 figs. [Odon.]

809.—Esben-Petersen, P. Neue und wenig bekannte Neuropteren aus Süd-Angola. Rev. suisse Zool., Geneva 38 1931 pp. 89–95, 5 figs.

810.—Esben-Petersen, P. Myrmeleontiden aus Süd-Indien. Rev. suisse Zool., Geneva 38 1931 pp. 445–448, 3 figs. [Neur.]

811.—Escalera, M. M. de la. Una nueva especie de *Anthaxia* (Col. Buprest.) que vive en el *Abies pinsapo*. Bol. Soc. esp. Hist. nat., Madrid 31 1931 pp. 433–436, 1 fig.

812.—Escalera, M. M. de la. Los *Labidostomis* Redt. metálicos del Mediterráneo occidental (Col. Chrysom.). Eos, Madrid 7 1931 pp. 107–130, 1 pl. 1 fig.

813.—Escomel, E. Fauna de Arequipa. Arequipa, Peru 1929 71 pp. [Insects pp. 41-71.]

814.—Essex, H. E., Markowitz, J. & Mann, F. C. The physiologic action of the venom of the honey-bee (*Apis mellifica*). Amer. J. Physiol., Baltimore 94 1930 pp. 209-214, 7 figs. [Hym.]

815.—Essig, E. O. A history of entomology. New York, MacMillan Co. 1931 vii + 1029 pp. 263 figs. and portraits.

816.—Estable, C. Observaciones sobre algunos insectos del Uruguay. An. Mus. nac. Montevideo (2) 3 1929 pp. 57-92, 16 pls. [Lep.]

817.—Euzebio de Oliveira, —. Insectos permianios do Estado do Paraná. Ann. Acad. Bras. Sci., Rio de Janeiro 2 1930 pp. 215-218. [Fossil.]

818.—Evans, A. M. Notes on African Anophelines. Ann. Trop. Med. Parasit., Liverpool 25 1931 pp. 129-143, 6 figs. [Dipt.]

819.—Evans, A. M. Observations made by Dr. M. A. Barber on a melanic coastal race of *Anopheles costalis*, Giles (*gambiae*) in Southern Nigeria. Ann. Trop. Med. Parasit., Liverpool 25 1931 pp. 443-453. [Dipt.]

820.—Evans, A. M. A new subspecies of *Anopheles funestus* Giles, from Southern Rhodesia. Ann. Trop. Med. Parasit., Liverpool 25 1931 pp. 545-549. [Dipt.]

821.—Evans, G. H. Bees and an Empid-fly taken visiting orchids in France. Proc. Ent. Soc. London 1931 5 pp. 101-103; 6 p. 59. [Dipt., Hym.]

822.—Evans, J. H. A preliminary revision of the ambush bugs of North America (Hemiptera, Phymatidae). Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 711-736, 2 pls.

823.—Evans, J. W. Notes on the biology and morphology of the Eury-melinae (Cicadelloidea, Homoptera). Proc. Linn. Soc. N.S.W., Sydney 86 1931 pp. 210-226, 1 pl. 19 figs.

Evans, T. C. see Bodine & Evans.

824.—Evenius, J. Zum Problem der Stärkeverdauung im Darmkanal der Honigbiene (*Apis mell.* L.). Arch. Bienenkunde, Neumünster i. Holstein 8 1927 pp. 199-206, 2 figs. [Hym.]

825.—Ewing, H. E. Some factors affecting the distribution of and variation in North American ectoparasites. Amer. Nat., New York 65 1931 pp. 360-369, 1 map. [Siphonapt.]

826.—Eyer, J. R. The relation of temperature and rainfall to outbreaks of the grape leafhopper, *Erythroneura comes* Say. Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 238-259, 17 graphs. [Hem.]

827.—Faber, A. Beobachtungen über die Orthopteren des Hohentwiel. Veröffentl. Staadtl. Stelle Natursch. Heft 7 1931 [sic] pp. 88-91. (Publ. in Jhft. Ver. vaterl. Naturk. Württemberg, Stuttgart 86 1930.)

828.—Faes, H. Sur une invasion de grillons domestiques (*Gryllus domesticus* L.) aux environs de Lausanne. Rev. suisse Zool., Geneva 38 1931 pp. 309-312, 2 figs. [Orth.]

829.—Fahringer, J. Opuscula brachnologica. Vienna 2 1931 Lief. 5 pp. 305-384; 3 Lief. 1-2 1930 pp. 1-160, Lief. 3 1931 pp. 161-240. [Hym.]

830.—Fahringer, J. Zehn indo-australische Novitäten aus der Gattung *Campyloneurus* Szépl. (Fam. Braconidae, Hymenoptera.) Folia zool. hydrobiol., Riga 2 1931 pp. 169-172.

831.—Falcoz, L. Faune des Coléoptères de la région lyonnaise. Clavi-cornia. Ann. Soc. linn. Lyon 76 1931 pp. 110-118.

832.—Falcoz, L. Tableaux analytiques des Coléoptères de la faune franco-rhénane. Famille xxxiii. Cryptophagidae. [Contd. & end.] Misc. ent., Castanet-Tolosan 33 1931 sep. pp. 145-197, 14 figs.

833.—Falcoz, L. Matériaux pour la connaissance des Diptères pupipares. I. Parasitology, Cambridge 23 1931 pp. 264-269, 5 figs.

834.—Falkenstein, R. B. A general biological study of the Lychee stink bug, *Tessaratoma papillosa* Drur. (Heteroptera, Pentatomidae.) Lingnan Sci. J., Canton 10 1931 pp. 29-80, 2 pls. [Hem.]

835.—Falkenström, G. Stockholmstraktens Vatten-Coleoptera. Ent. Tidskr., Stockholm 51 1930 pp. 143-159, 9 figs.

15

836.—Falkner, H. J. Sexual distinctions in Conopidae. Ent. Mon. Mag., London **67** 1931 pp. 61-62. [Dipt.]

837.—Fall, H. C. Notes on certain species of *Attelabus*, with a table of the North American species (Coleoptera). Bull. Brooklyn Ent. Soc. **26** 1931 pp. 107-110.

838.—Fall, H. C. An interesting new genus and species of Cistelidae (Coleoptera). J. Kansas Ent. Soc. **4** 1931 pp. 15-16.

839.—Fall, H. C. A new *Gyrinus* from Alaska, with references to other recently described species (Coleoptera). Pan-Pacific Ent., San Francisco **7** 1931 pp. 154-156.

840.—Fall, H. C. The North American species of *Hymenorus* (Coleoptera, Alleculidae). Trans. Amer. Ent. Soc., Philadelphia **57** 1931 pp. 161-247.

841.—Farquet, P. Les criquets migrants en Valais. Bull. Murith. Sion, St. Maurice **48** 1931 pp. 57-77. [Orth.]

842.—Farrar, M. D. Metabolism of the adult honey bee. J. Econ. Ent., Geneva, N.Y. **24** 1931 pp. 611-616, 1 fig. [Hym.]

843.—Fassnidge, W. Notes on three insects bred from galls on juniper. Ent. Rec., London **43** 1931 pp. 34-36. [Lep.]

844.—Fassnidge, W. Notes and additions to the list of the Lepidoptera of Digne (Basses-Alpes). Ent. Rec., London **43** 1931 pp. 117-122, 145-149.

845.—Fassnidge, W. Additions and corrections to the lists of Lepidoptera of Hampshire and the Isle of Wight. Trans. Ent. Soc. S. England, Southampton **1930** 1931 pp. 126-136.

846.—Felt, E. P. Gall midges or gall gnats of the Orient (Itonididae or Cecidomyiidae). Lingnan Sci. J., Canton **7** (1929) [1931] pp. 413-474. [Dipt.]

847.—Fender, K. Butterflies of Yamhill County, Oregon. Pan-Pacific Ent., San Francisco **7** 1931 pp. 179-187, 1 map. [Lep.]

848.—Feng, L. C. The larvae and pupae of the North China species of *Anopheles*, their structure and breeding habits. Nat. Med. J. China, Peiping **17** 1931 pp. 493-512, 4 pls. [Dipt.]

849.—Fenton, F. A. & Owen, jr., W. L. Hibernation of *Pectinophora gossypiella* in Texas. J. Econ. Ent., Geneva, N.Y. **24** 1931 pp. 1197-1207, 1 pl. [Lep.]

850.—Fernald, H. T. Notes on some American Sphecinae (Hym.). Ann. Ent. Soc. Amer., Columbus **24** 1931 pp. 439-450.

851.—Fernald, H. T. On color dimorphism in *Podalonia violaceipennis* (Lep.) (Hym.: Sphecini). Canad. Ent., Orillia **63** 1931 pp. 278-279.

852.—Fernández, A. Un nuevo género de la subfamilia Amphipyrrinae y otras novedades lepidopterológicas ibéricas. Eos, Madrid **7** 1931 pp. 211-222, 1 pl.

Ferreira d'Almeida see d'Almeida.

853.—Ferrière, C. Notes on African Chalcidoidea. Bull. Ent. Res., London **22** 1931 pp. 127-135, 3 figs. [Hym.]

854.—Ferrière, C. New Chalcidoid egg-parasites from South Asia. Bull. Ent. Res., London **22** 1931 pp. 279-295, 6 figs. [Hym.]

855.—Ferrière, C. Un curieux Chalcidien myrmécophile de Cuba (Hym.). Bull. Soc. ent. Fr., Paris **1931** pp. 215-219, 1 fig.

856.—Ferris, G. F. The louse of elephants, *Haematomyzus elephantis* Piaget (Mallophaga: Haematomyzidae). Parasitology, Cambridge **23** 1931 pp. 112-127, 2 pls. 5 figs.

857.—Feuerborn, H. J. Die Larven der Psychodiden oder Schmetterlingsmücken. Ein Beitrag zur Oekologie des "Feuchten." Verh. int. Ver. Limnol. Kiel, Stuttgart **1** (1922) 1923 pp. 181-213, 14 figs. [Dipt.]

858.—Feuerborn, H. J. Halobionte Psychodiden. *Telmatoctopus similis* Tonnoir und *utulatus* Walker. Mitt. geogr. Ges. Lübeck (2) **31** 1926 pp. 127-152, 24 figs. [Dipt.]

859.—Feytaud, J. Recherches sur le doryphore (*Leptinotarsa decemlineata* Say). Ann. Epiphyt., Paris **16** (1930) 1931 pp. 303-390, 1 pl. 21 figs. [Col.]

860.—Filinger, G. A. The effect of temperature on feeding and development of the greenhouse leafyter, *Phlyctaenia ferrugalis* Hb. J. Econ. Ent., Geneva, N.Y. **24** 1931 pp. 52-54. [Lep.]

- 861.—Filipjev, N. Microheterocera des Minussinsk Bezirks. Nachtrag II. [In Russian with German descriptions.] Jahrb. Martj. Staatsmus. Minussinsk 5 1927 pp. 1-32. [Lep.]
- 862.—Filipjev, N. Lepidoptero-logische Notizen. VII, IX. Annu. Mus. zool. Acad. Leningrad 31 1930 pp. 223-226, 9 figs.; (1930) 1931 pp. 341-346, 8 figs.
- 863.—Filipjev, N. Wissenschaftliche Ergebnisse der entomologischen Expeditionen des Zoologischen Museums in dem Ussuri-Lande. III. Uebersicht der ostsibirischen Arten der Gattung *Peronea* Curtis (Lepidoptera, Tortricidae). Annu. Mus. zool. Acad. Leningrad 31 (1930) 1931 pp. 497-528, 10 pls. 2 figs.
- 864.—Filipjev, N. Lepidoptero-logischen Notizen. X. Die Artberechtigung von *Gracilaria betulicola* Hering. C.R. Acad. Sci. U.R.S.S., Leningrad (A) 1931 pp. 236-238, 6 figs. [Lep.]
- 865.—Filipjev, N. Lepidoptero-logische Notizen. XIII. Iris, Dresden 45 1931 pp. 70-73, 2 figs.
- 866.—Fintzescu, G. N. Les parasites des larves du Coléoptère *Scolytus rugulosus* Koch. Bull. Acad. Roumanie, Bucarest 13 1930 pp. 245-247.
- 867.—Fiori, A. Valore sistematico di alcune forme del genere *Hyponomeuta* Latr. Boll. Lab. Ent. Bologna 3 1930 pp. 246-253. [Lep.]
- 868.—Fiori, A. Macrolepidotteri dell' alta valle Rendena, Studi trentini, Trento 12 1931 pp. 171-198, 1 pl.
- 869.—Fischer, E. Ein Elektrokardiogramm von Schmetterlingspuppen. Mitt. schweiz. ent. Ges., Berne 15 1931 pp. 46-49, 1 pl. [Lep.]
- 870.—Fischer, E. Artbastarde von Schmetterlingen und ihre F₂-und Rückkreuzungsgeneration. Vierteljahrsschr. naturf. Ges. Zurich 76 1931 pp. 214-303, 4 pls. 7 figs. [Lep.]
- 871.—Fischer, F. Ein Beitrag zur Schmetterlingsfauna des nördlichen Burgenlandes. Z. Ver. Naturbeob., Vienna 6 1931 pp. 7-8, 11-12, 13-16, 19-20, 24.
- 872.—Fisher, J. M. M. A list of the Lepidoptera of the Eton district made during the years 1928, 1929 and 1930. Ann. Rept. Eton Coll. Nat. Hist. Soc. 1930-31 pp. 83-101.
- 873.—Fisher, R. C. Notes on the biology of the large elm bark-beetle, *Scolytus destructor* Ol. Forestry, London 5 1931 pp. 120-131, 1 pl. [Col.]
- 874.—Fisher, W. S. New cactus beetles, III. Proc. Ent. Soc. Washington 33 1931 pp. 197-201.
- 875.—Fison, L. M. Notes on Algerian butterflies with special reference to some localities in Kabylia. Ent. Rec., London 43 1931 pp. 166-167.
- 876.—Flanders, S. E. The temperature relationships of *Trichogramma minutum* as a basis for racial segregation. Hilgardia, Berkeley 5 1931 pp. 395-406, 4 figs. [Hym.]
- 877.—Fletcher, T. B. Catalogue of Indian Insects. Part 20—Alucitidae (Pterophoridae). Calcutta Govt. India Centr. Pubn. Branch 1931 iv + 61 pp. [Lep.]
- 878.—Fletcher, T. B. Catalogue of Indian Insects. Part 22—Phalonidae and Chlidanotidae. Calcutta Govt. India Centr. Pubn. Branch 1931 iii + 15 pp. [Lep.]
- 879.—Fletcher, T. B. List of publications on Indian entomology, 1929. Bull. Agric. Res. Inst. Pusa, Calcutta 207 1931 36 pp.
- 880.—Fletcher, T. B. The life-history of some Heterocera. Proc. Ent. Soc. London 5 1931 p. 68. [Lep.]
- 881.—Fletcher, T. B. & Sen, S. K. A veterinary entomology for India. Parts xii-xiv. J. Centr. Bur. Anim. Husb. Dairying India, Calcutta 4 (1930) 1931 pt. 3 pp. 90-104, 2 pls.; pt. 4 pp. 127-138, 5 pls.; Ind. J. Vet. Sci. Anim. Husb. 1 1931 pt. 3 pp. 192-199, 1 pl.
- 882.—Fleutiaux, E. Les Elatérides de l'Indochine française. Catalogue raisonné. Bull. Mus. Hist. nat., Paris (2) 2 (1930) 1931 pp. 636-644. [Col.]
- 883.—Fleutiaux, E. Note sur un genre nouveau d'Elatéridae (Col.). Bull. Soc. ent. Fr., Paris 1931 pp. 29-30.
- 884.—Fleutiaux, E. Contributions à la faune de l'Indochine française. Bull. Soc. ent. Fr., Paris 1931 pp. 73-75. [Col.]
- 885.—Fleutiaux, E. Descriptions de deux Melasidae nouveaux. Bull. Soc. ent. Fr., Paris 1931 pp. 102-103. [Col.]

886.—Fleutiaux, E. Remarques synonymiques (Col. Melasidae). Bull. Soc. ent. Fr., Paris 1931 p. 104.

887.—Fleutiaux, E. Omissions dans la Coleopterorum Catalogus, pars 80 Elateridae i, 1925, par Schenckling. Bull. Soc. ent. Fr., Paris 1931 p. 120.

888.—Fleutiaux, E. Les Elatérides de l'Indochine française (Catalogue raisonné). Bull. Soc. zool. Fr., Paris 56 1931 pp. 306-334, 5 figs. [Col.]

889.—Fleutiaux, E. Mélasides nouveaux provenant des collections de la "Experiment Station of the Hawaiian Sugar Planters' Association, Honolulu." Proc. Hawaii. Ent. Soc. 1929-30, Honolulu 7 1931 pp. 453-456.

890.—Fluiter, H. J. de. De bloedluis *Eriosoma lanigerum* (Hausm.) in Nederland. Proefschrift Rijksuniv. Leiden 1931 vii + 126 pp. 13 pls. 4 graphs; also in Tijdschr. Plzkten., Wageningen 37 1931 pp. 201-280.

891.—Fluke, C. L. Notes on certain *Syrphus* flies related to *Xanthogramma* (Diptera Syrphidae) with descriptions of two new species. Trans. Wisc. Acad. Sci. Arts Lett., Madison 26 1931 pp. 289-310, 2 pls.

892.—Foley, H. Moeurs et médecine des Touareg de l'Ahaggar. Arch. Inst. Pasteur Algérie, Algiers 8 1930 pp. 167-287, 1 map 39 pls. 10 figs. [Insects pp. 257-267.]

Fonseca, J. da see Pinto da Fonseca.

893.—Forbes, W. T. M. Notes on the Dioptidae (Lepidoptera). J. N.Y. Ent. Soc. 39 1931 pp. 69-76.

Fordham, W. J. see Butterfield & Fordham.

894.—Forsius, R. Cecidiologische Beiträge V. Mem. Soc. Fauna fenn., Helsingfors 5 (1928-29) 1930 pp. 128-131.

895.—Forsius, R. Notes on a collection of Ethiopian Orysoidea and Tenthredinoidea (Insecta: Hymenoptera). Ann. Mag. Nat. Hist., London (10) 8 1931 pp. 1-36, 2 figs.

896.—Forsius, R. Inventa entomologica itineris Hispanici et Maroccani, quod a. 1926 fecerunt Harald et Håkan Lindberg. X. Ueber die von Mag. phil. Håkan Lindberg in Spanien gesammelten Tenthredinoiden. Comment. Biol. Soc. Sci. Fenn., Helsingfors 3 1931 no. 15 pp. 1-6. [Hym.]

897.—Forsius, R. A new *Diprion* from China. Notul. ent., Helsingfors 11 1931 pp. 26-27. [Hym.]

898.—Forsius, R. Eine neue *Macrophya* aus China (Hym., Tenthred.). Notul. ent., Helsingfors 11 1931 pp. 27-28.

899.—Forsslund, K. H. För Sverige och Norge nya Trichoptera och Neuroptera. Ent. Tidskr., Stockholm 51 1930 pp. 83-85.

Forsslund, K. H. see Sjöstedt et al.

900.—Foster, —. Distribution of insects in Ireland. Proc. Belfast Nat. Hist. Phil. Soc. 1929-30 1931 pp. 14-28.

901.—Fraenkel, G. Die Orientierung von *Schistocerca gregaria* zu strahlender Wärme. Z. vergl. Physiol., Berlin 13 1930 pp. 300-313, 10 figs. [Orth.]

902.—Franck, P. Ueber die Verbreitung und die Lebensweise deutscher Käfer. IV. Ent. Bl., Berlin 27 1931 pp. 1-3.

903.—Franssen, C. J. H. Bijenteelt op Java en de biologie van *Apis indica* F. Natuurh. Maandbl., Maastricht 20 1931 pp. 44-48, 56-64, 71-74. [Hym.]

904.—Franssen, C. J. H. Die Biologie van *Rhodoneura myrtaea*. Natuurh. Maandbl., Maastricht 20 1931 pp. 117-120, 144-148, 158-161, 173-176, 6 pls. [Lep.]

905.—Franssen, C. Das Präparieren von Termitozoen. Natuurh. Maandbl., Maastricht 20 1931 p. 132. [Isopt.]

906.—Frantzi, A. M. & Dyukov, N. N. The fall generation of *Locusta migratoria* L. in Daghestan in 1927. [In Russian, with English summary.] Bull. Plant Prot., Leningrad Ent. 1 1930 pp. 179-189, 1 graph. [Orth.]

907.—Franz, E. Bemerkungen zur Gattung *Plusiotis* (Ins. Col.). Senckenbergiana, Frankfurt a. M. 13 1931 pp. 195-196.

908.—Franz, H. Ueber die Bedeutung des Mikroklimas für die Faunen-zusammensetzung auf kleinem Raum. (Ökologische Beobachtungen aus der Umgebung von Zurndorf im nördlichen Burgenland.) Z. Morph. Ökol. Tiere, Berlin 22 1931 pp. 587-628, 4 figs.

Franzi see Frantzi.

909.—Fraser, F. C. Indian dragonflies. Parts xxxvi—xxxviii. J. Bombay Nat. Hist. Soc. 1931 **34** pp. 965–972, 7 figs.; **35** pp. 66–76, 1 pl. 2 figs.; pp. 325–341, 2 pls. 1 fig.

910.—Frémont, A. A propos d'*helicina* Oberthür. Lambillionea, Brussels **31** 1931 pp. 88–94. [Lep.]

911.—Frey, R. Några nykomlingar för Finlands Empidid och Dolichopodid-fauna. Mem. Soc. Fauna fenn., Helsingfors **5** (1928–29) 1930 pp. 111–113. [Dipt.]

912.—Friederichs, H. F. Die Funktionen der Ocellen bei den Lepidopteren. Int. ent. Z., Guben **25** 1931 pp. 326–332, 3 figs.

913.—Friederichs, H. F. Beiträge zur Morphologie und Physiologie der Sehgorgane der Cicindelinen (Col.). Z. Morph. Oekol. Tiere, Berlin **21** 1931 pp. 1–172, 93 figs.

914.—Friend, R. B. The squash vine borer *Melittia satyriniformis* Hübner. Bull. Connecticut Agric. Expt. Sta., New Haven **328** 1931 pp. 587–608, 3 figs. [Lep.]

915.—Friend, R. B. The life-history and control of the birch leaf-mining sawfly, *Fenusa pumila* Klug. J. Econ. Ent., Geneva, N.Y. **24** 1931 pp. 171–177. [Hym.]

916.—Friese, H. Ueber einige hochentwickelte Bienen (Hym.). Konowia, Vienna **10** 1931 pp. 34–39, 3 figs.

917.—Friese, H. Ueber *Bombus* and *Psithyrus*. Konowia, Vienna **10** 1931 pp. 300–304. [Hym.]

918.—Friese, H. Wie können Schmarotzerbienen aus Sammelbienen entstehen? ii. Zool. Jahrb., Jena Syst. **62** 1931 pp. 1–14, 5 figs. [Hym.]

Friesen, H. *see* Bobrow and Friesen.

Frison, T. H. *see* Hottes & Frison.

919.—Fritsch, K. Beobachtungen über blütenbesuchende Insekten in Steiermark, 1910. SitzBer. Akad. Wiss. Wien **139** 1930 Abt. 1 pp. 601–639.

920.—Friza, F. Zur Frage der Färbung und Zeichnung des Facettierten Insektenauges. Z. vergl. Physiol., Berlin **8** 1928 pp. 289–336, 25 figs. [Dipt., Orth.]

921.—Friza, F. & Przibram, H. Johnston'sche Sinnesorgane in den Fühlerfüßen (Aristopeden) der *Sphodromantis* und *Drosophila* (Zugleich: Homoeosis viii). Anz. Akad. Wiss. Wien **67** 1930 pp. 173–174.

922.—Froggatt, W. W. A classification of the gall-making Coccids of the genus *Apiomorpha*. Proc. Linn. Soc. N.S.W., Sydney **66** 1931 pp. 431–454, 30 figs. [Hem.]

923.—Frost, S. W. The habits of leaf-mining Coleoptera on Barro Colorado Island, Panama. Ann. Ent. Soc. Amer., Columbus **24** 1931 pp. 396–400, 4 pls.

924.—Frost, S. W. New North American Agromyzidae (Dipt.). Canad. Ent., Orillia **63** 1931 pp. 275–277.

925.—Frost, S. W. New species of West Indian Agromyzidae (Diptera). Ent. News, Philadelphia **42** 1931 pp. 72–76.

926.—Frost, S. W. The Well-marked Fruit-worm, *Stenomoma algidella* Walk. J. Econ. Ent., Geneva, N.Y. **24** 1931 pp. 1208–1213, 1 pl. 2 figs. [Lep.]

927.—Fryer, J. C. F. Further notes on the Tortricid moth *Acalla comariana* Zeller. J. Genet., Cambridge **24** 1931 pp. 195–202. [Lep.]

928.—Fuente y Morales, J. M. Catálogo sistemático geográfico de los Coleópteros observados en la península ibérica, Pirineos propiamente dichos y Baleares (continuación). Bol. Soc. ent. Esp., Zaragoza **13** (1930) 1931 pp. 138–153; **14** 1931 pp. 21–38, 49–66, 78–93, 100–115, 138–153.

929.—Fulda, O. Sammelreise quer durch Mexiko. Ent. Rdsch., Stuttgart **48** 1931 pp. 22–24, 40–41, 51–53, 76–79, 98–101.

930.—Fulda, O. Sammeln in Haiti. Ent. Rdsch., Stuttgart **48** 1931 pp. 169–170, 176–179, 194–196. [Lep.]

931.—Fuller, M. E. The life-history of *Calliphora ochracea* Schiner (Diptera, Calliphoridae). Proc. Linn. Soc. N.S.W., Sydney **66** 1931 pp. 172–181, 2 figs.

932.—Fulmek, L. Zur Kenntnis der Entwicklung von *Atractocerus emarginatus* Cast. (Coleopt.—Lymexylonidae.) Treubia, Buitenzorg **12** 1930 pp. 389–394, 2 figs.

933.—Fulton, B. B. A study of the genus *Nemobius* (Orthoptera; Gryllidae). Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 205-237, 5 figs.

934.—Fulton, F. A. & Chamberlin, J. C. A new automatic insect trap for the study of insect dispersion and flight associations. J. Econ. Ent., Geneva, N.Y. 24 1931 pp. 757-761, 1 pl. 1 fig.

935.—Funk, A. Ueber Schmetterlinge am Hohentwiel. Veröffentl. Staadtl. Stelle Natursch. Heft 7 1931 [sic] pp. 92-94. Publ. in Jhft. Ver. vaterl. Naturk. Württemberg, Stuttgart 86 1930. [Lep.]

936.—Funkhouser, W. D. New Australian Membracidae (Homoptera). Rec. Austr. Mus., Sydney 15 1927 pp. 305-312, 1 pl.

937.—Funkhouser, W. D. The Membracidae of China. Lingnan Sci. J., Canton 7 (1929) [1931] pp. 475-479, 1 pl. [Hem.]

938.—Furukawa, H. Orthopteroids of Bonin Islands. [In Japanese.] Bull. Biogeogr. Soc. Japan, Tokyo 1 1930 pp. 227-237.

939.—Gadeau de Kerville, H. Sur les oeufs et l'instinct maternel du *Pseudochelidura sinuata* Germ. (Dermaptera). Bull. Soc. ent. Fr., Paris 1931 pp. 119-120.

940.—Gaede, M. Satyridae. Lepidopt. Catalogus, Berlin 43 pp. 1-320; 46 pp. 321-544; 48 pp. 545-759 1931.

941.—Gaede, M. Drepanidae. Lepidopt. Catalogus, Berlin 49 1931 60 pp.

942.—Gaede, M. Mimallonidae. Lepidopt. Catalogus, Berlin 50 1931 21 pp.

943.—Gaede, M. In SEITZ Gross-Schmett. 1931. Cymatophoridae 10 pp. 657-663; Hesperidae Suppl. 1 pp. 307-326.

944.—Gaede, M. & Bollow, C. Lycaenidae. In SEITZ Gross-Schmett. Suppl. 1 1931 pp. 289-306, 1 pl.

945.—Gahan, A. B. Two new Hymenopterous parasites of *Tachypterellus consors* Dietz. J. Washington Acad. Sci. 21 1931 pp. 37-39.

946.—Gahan, A. B. On certain Hymenopterous parasites of stored-grain insects. J. Washington Acad. Sci. 21 1931 pp. 213-221, 9 figs.

947.—Gaillard, R. Notes sur les Lépidoptères du Gard. Bull. Soc. Sci. nat. Nîmes 46 1928-29 pp. 169-173.

948.—Galán, F. Estudios sobre la espermatogénesis del coleóptero *Phytodecta variabilis* (Ol.). Los cromosomas en la mitosis gonial y en la reducción cromosómica. Eos, Madrid 7 1931 pp. 461-501, 5 pls. 2 figs.

949.—Gallardo, A. Sobre el género *Dorymyrmex* Mayr en la Argentina. Rev. chil. Hist. nat., Santiago de Chile 34 1930 pp. 143-148, 1 fig. [Hym.]

950.—Gallardo, A. Algunas formas sexuales aun no descriptas de las hormigas del género *Crematogaster* de la Republica Argentina. Rev. Soc. ent. argent., Buenos Aires 3 1931 pp. 297-304, 6 figs. [Hym.]

951.—Galliard, H. Culicides du Gabun. I, II. Culicines. Ann. Parasit. hum. comp., Paris 9 1931 pp. 225-232, 4 figs., 512-529, 9 figs. [Dipt.]

952.—Galliard, H. & Nitzulescu, V. Contribution à l'étude des phlébotomes du Gabon. *Phlebotomus sanneri* n. sp. Ann. Parasit. hum. comp., Paris 9 1931 pp. 233-246, 10 figs. [Dipt.]

953.—Gamble, J. T. Studies on the ecology and distribution of aquatic beetles of Presque Isle, Lake Erie, Penn. Proc. Pennsylvania Acad. Sci., Harrisburg 5 1931 pp. 97-100. [Col.]

954.—Gambrell, F. L. The fruit-flies of New York. J. Econ. Ent., Geneva, N.Y. 24 1931 pp. 226-232, 1 pl. 2 figs. [Dipt.]

955.—Ganglbauer, L. Die europäischen und kaukasischen Arten der Gattung *Podistra* s. lat. Koleopt. Rdsch., Vienna 16 (1930) 1931 pp. 244-254, 21 figs.

956.—Ganglbauer, L. Revision der Gattung *Zabrus* Clairv. Koleopt. Rdsch., Vienna 17 1931 pp. 1-55.

957.—Gardner, J. C. M. Immature stages of Indian Coleoptera (8), (9). Ind. For. Rec., Calcutta 16 1931 pp. 49-89, 91-111, 5 pls.

958.—Gardner, J. C. M. The early stages of two species of Rhipiceridae (Sandalidae) from India. Trans. Ent. Soc. London 79 1931 pp. 427-430, 1 pl. [Col.]

959.—Gatenby, J. B. Note on Dr. Jan Hirschler's paper on spindle bridges, and the *de novo* origin of moth spermatocyte Golgi bodies. *Biol. Bull., Wood's Hole, Mass.* **60** 1931 pp. 409–415, 1 pl. 2 figs.

960.—Gatenby, J. B. Preliminary report on the effect of phosphorized olive oil on the spermatogenesis of *Abraxas grossulariata*. *J. Exp. Zool., Philadelphia* **58** 1931 pp. 259–280, 4 pls. 1 fig. [Lep.]

961.—Gatenby, J. B. Induced multiplication and growth of Golgi bodies and alteration of nebenkern pattern and nucleolus in *Abraxas grossulariata* spermatogenesis. *J. Exp. Zool., Philadelphia* **60** 1931 pp. 285–308, 3 pls. [Lep.]

962.—Gaunitz, C. B. [Notes on some Swedish Coleoptera.] [In Swedish.] *Ent. Tidskr., Stockholm* **51** 1930 pp. 72–80, 259–267.

963.—Gause, G. F. Ueber den Einfluss verkürzter larvaler Ernährungszeit auf die Eiergrösse von *Drosophila funebris* und *Drosophila melanogaster*. *Biol. Zbl., Leipzig* **51** 1931 pp. 209–218, 3 figs. [Dipt.]

964.—Gavalov, I. Beiträge zur Kenntnis der Cocciden des Kaukasischen Gebietes. [In Russian with German summary.] *Krasnodar* 1931 22 pp. [Hem.]

965.—Gavalov, J. J. Thysanoptera des Stavropoler Kreises (Nord Kaukasisches Gebiet). [In Russian with German summary.] *Bull. N. Cauc. Plant Prot. Sta., Rostov-on-Don* **6-7** 1930 pp. 195–198.

966.—Gebhardt, A. v. Zur Eidonomie der Buprestiden. *Koleopt. Rdsch., Vienna* **17** 1931 pp. 161–172, 56 figs.

967.—Gebhardt, A. v. Beiträge zur Anatomie des Darmkanals der Buprestiden (Col.). *Sbornik ent. odd. Nár. Mus. Praze* **9** 1931 pp. 99–130, 2 pls.

968.—Gehlen, B. Neue Spingiden. *Ent. Z., Frankfurt a. M.* 1931 **44** pp. 362–364, 1 pl.; **45** pp. 201–204, 1 pl. 7 figs. [Lep.]

969.—Gehlen, B. Neues über Sphingiden. *Ent. Z., Frankfurt a. M.* **45** 1931 pp. 119–121, 6 figs. [Lep.]

970.—Geigy, R. Erzeugung rein imaginaler Defekte durch ultraviolette Eibestrahlung bei *Drosophila melanogaster*. *Arch. EntwMech. Org., Berlin* **125** 1931 pp. 406–447, 47 figs. [Dipt.]

971.—Geigy, R. Action de l'ultra-violet sur le pôle germinal dans l'oeuf de *Drosophila melanogaster* (castration et mutabilité). *Rev. suisse Zool., Geneva* **38** 1931 pp. 187–288, 6 pls. 21 figs. [Dipt.]

972.—Geist, R. M. Additional Mallophaga from Ohio birds. *Ohio J. Sci., Columbus* **31** 1931 pp. 505–509.

973.—Gelei, J. v. Die Ertragung der Trockenheit durch die *Dasyhelea*-Larven. [In Hungarian with German summary.] *Arb. Ung. biol. Forsch. Inst., Tihany* **3** 1930 no. 2 pp. 265–271, 2 figs. [Dipt.]

974.—Gemignani, E. El alotipo de *Mallophora vegeta* E. Lynch Arribal y descripción de una nueva especie. *Rev. Soc. ent. argent., B. Aires* **3** 1931 pp. 265–266. [Dipt.]

Gemignani, E. see Liebermann & Gemignani.

975.—Georgevitch, J. Etude des termites de Yougoslavie. [In Serbian.] *Glas. srpsk. kralj. Akad., Belgrade* **71** 1931 pp. 1–72, 4 pls. 3 figs. [Isopt.]

976.—Gerasimov, A. Zur Lepidopteren-Fauna Mittel-Asiens. I. Microheterocera aus dem Distrikt Kaschkadaria (S.O. Bucharra). *Annu. Mus. zool. Acad. Leningrad* **31** 1930 pp. 21–48, 10 pls.

977.—Gerasimov, A. Zur Lepidopteren-fauna von Mittelasien III. Neue *Lithocolletis*. *Ent. Z., Frankfurt a. M.* **45** 1931 pp. 125–132, 5 figs.

978.—Gerasimov, A. Zur Lepidopterenfauna von Mittelasien IV. Vier neue Macroheterocera. *Mitt. münchn. ent. Ges.* **41** 1931 pp. 58–64, 2 figs. b2

979.—Gestro, R. & Vinciguerra, D. Risultati scientifici della missione alla Oasi di Giarubub 1926–27. *R. Soc. geogr. ital., Rome* **4** 1931 pp. 531–549. [Insects pp. 541–547.]

980.—Ghesquière, J. Sur l'importance économique et la bionomie de deux Pyraustines nouvelles pour la Congo belge *Leucinodes orbonalis* Guen. et *Pimelephila ghesquierei* Tams. *Bull. Ann. Soc. ent. Belg., Brussels* **71** 1931 pp. 131–138. [Lep.]

981.—Ghidini, G. M. Contributo alla conoscenza della fauna speo-entomologica bresciana. 1°. La larva dell' *Antisphodrus boldorii* Doderò. Boll. Soc. ent. ital., Genoa **63** 1931 pp. 40-43, 8 figs. [Col.]

982.—Giersberg, H. Die Farbung der Schmetterlinge. I. Z. vergl. Physiol., Berlin **9** 1928 pp. 524-552, 9 figs. [Lep.]

983.—Giersberg, H. Ueber den Zusammenhang von morphologischem und physiologischem Farbwechsel. Nach Untersuchungen an Insekten und Fischen. Arch. zool. ital., Torino **16** 1931 pp. 363-370, 1 fig.

984.—Gieysztor, M. Rapport des travaux des recherches sur la faune de Macrolepidoptera de la forêt de Białowieza. [In Polish with French summary.] Białowieza, Warsaw **2** 1923 pp. 119-139.

985.—Gil Collado, J. Monografía de los Sífidos de Espana. Trab. Mus. Cienc. Madrid, Ser. Zool. **54** 1930 376 pp. 89 figs. [Dipt.]

986.—Gil Collado, J. Note sur le "jen-jen" de Fernando Poo. Bull. Soc. Path. exotique, Paris **24** 1931 pp. 672-677, 2 figs. [Dipt.]

987.—Gil Collado, J. Notas sobre Taquinidos españoles (Dipt.). I. Algunas especies parásitas de orugas de El Escorial. Eos, Madrid **7** 1931 pp. 349-354, 4 figs.

988.—Gil Collado, J. Nota sobre el jen jen de Fernando Poo. Medicina Paises Calid., Madrid **4** 1931 pp. 236-240, 2 figs. [Dipt.]

989.—Gillette, C. P. & Palmer, M. A. The Aphidae of Colorado. Part I. Ann. Ent. Soc. Amer., Columbus **24** 1931 pp. 827-934, 100 figs. [Hem.]

990.—Gilmore, K. A. & Whiting, P. W. Females from unfertilised eggs in *Habrobracon* and their cytological significance. Anat. Rec., Philadelphia **51** 1931 suppl. p. 113. [Hym.]

991.—Giudice, E. del. Contributo alla conoscenza del tonchio della sulla (*Bruchidius pygmaeus* Boh.). Boll. Lab. Zool. Portici **25** 1931 pp. 249-256, 6 figs. [Col.]

Glasgow, H. see Parrott & Glasgow.

992.—Glenn, P. A. Use of temperature accumulations as an index to the time of appearance of certain insect pests during the season. Trans. Illinois Acad. Sci., Springfield **24** 1931 pp. 167-180.

993.—Glover, L. C. Suggestions on maintaining cultures of mosquito larvae through the winter. J. Econ. Ent., Geneva, N.Y. **24** 1931 pp. 896-898. [Dipt.]

994.—Godfrey, E. J. A revised list of the butterflies of Siam, with notes on their geographical distribution. J. Siam Soc. Nat. Hist. Suppl., Bangkok **7** 1930 pp. 203-397, 1 map. [Lep.]

995.—Godfrey, E. J. On a collection of butterflies from Kaw Tao. J. Nat. Hist. Soc. Siam, Bangkok **8** 1931 pp. 191-196. [Lep.]

996.—Goding, F. W. Synonymical notes on Membracidae. II. Ann. Ent. Soc. Amer., Columbus **24** 1931 pp. 935-936, 3 figs. [Hem.]

997.—Goding, F. W. Classification of the Old World Membracidae. J. New York Ent. Soc. **39** 1931 pp. 299-313, 606. [Hem.]

998.—Goecke, H. Die Gattung *Sominella* Jacobson (Col. Chrys. Donacini). Ent. Bl., Berlin **27** 1931 pp. 152-161 1 pl.

999.—Goellner, E. J. A new species of Termite, *Reticulitermes arenicola*, from the sand dunes of Indiana and Michigan, along the shores of Lake Michigan. Proc. Ent. Soc. Washington **33** 1931 pp. 227-234, 6 figs. [Isopt.]

1000.—Goetghebuer, M. Note sur quelques Chironomides de l'U.R.S.S. [Russian summary.] Arb. biol. Sta. Kossino, Moscow **11** 1930 pp. 3-4, 5 figs. [Dipt.]

1001.—Goetghebuer, M. Les Diptères du plateau des Hautes-Fagnes. Bull. Ann. Soc. ent. Belg., Brussels **71** 1931 pp. 171-182.

1002.—Goetghebuer, M. Empidæ (Diptères) de Belgique. Mém. Soc. ent. Belg., Brussels **23** 1931 pp. 167-176.

1003.—Goffe, E. R. British Tabanidae (Diptera). With an account of the principal variation, with descriptions of a number of new forms, and of some additions to the British list. Trans. Ent. Soc. S. England, Southampton 1930 1931 pp. 43-114, 2 pls.

- 1004.—Goldschmidt, R. Neue Untersuchungen über die Umwandlung der Gonaden bei Intersexuellen *Lymantria dispar* L. Arch. EntwMech. Org., Berlin 124 1931 pp. 618–653, 36 figs. [Lep.]
- 1005.—Goldschmidt, R. Analysis of intersexuality in the gipsy-moth. Quart. Rev. Biol., Baltimore 6 1931 pp. 125–142. [Lep.]
- 1006.—Goldschmidt, R. & Katsuki, K. Vierte Mitteilung über erblichen Gynandromorphismus und somatische Mosaikbildung bei *Bombyx mori* L. Biol. Zbl., Leipzig 51 1931 pp. 58–74, 1 fig. [Lep.]
- 1007.—Goltz, H. v. d. Ein weiterer Beitrag zur Schmetterlingsfauna des Löschentales. Int. ent. Z., Guben 25 1931 pp. 321–324. [Lep.]
- 1008.—Golyshev, N. O. Gasaustausch bei *Bombyx mori* in allen stadien seiner Entwicklung. [In Russian with German summary.] Arb. Moskau. ForschSta. Seide u. Seidenraupenzucht 3 1928 no. 1–4 pp. 127–164, 10 figs. [Lep.]
- 1009.—Gorbunow, G. P. Vorläufiger Bericht über die in Jahren 1923, 1924, 1925 und 1927 ausgeführten Untersuchungen der süßen und brackigen Gewässer auf Nowaja Zemlja. [In Russian with German summary.] Trans. Inst. Sci. Explor. North. Moscow 40 1929 pp. 147–154. [Col., Trichopt.]
- 1010.—Görnitz, K. Feststellung von Parasitenlarven in den Puppen des Kieferspanners. Anz. Schädlingk., Berlin 7 1931 pp. 30–33, 1 fig. [Lep.]
- 1011.—Gorter, F. J. Köcherbauversuche an Trichopterenlarven. Z. Morph. Oekol. Tiere, Berlin 20 1931 pp. 443–532.
- 1012.—Götze, G. Variabilunditäts-Züchtungsstudien an der Honigbiene mit besonderer Berücksichtigung der Langrüsseligkeit. Arch. Bienenkunde, Neumünster i. Holstein 11 1930 pp. 185–279, 4 pls. 11 figs. [Hym.]
- 1013.—Goux, L. Notes sur les Coccides (Hem. Coccidae) de la France. II. Contribution à l'étude des *Eriococcus* de la France. Bull. Soc. zool. Fr., Paris 56 1931 pp. 58–75, 9 figs.
- 1014.—Goux, L. Notes sur les Coccides (Hem.) de la France. (3^e note.) Description d'une espèce nouvelle. Bull. Soc. ent. Fr., Paris 1931 pp. 113–118, 15 figs.
- 1015.—Gowen, J. W. Genetic non-disjunctional forms in *Drosophila*. Amer. Nat., New York 65 1931 pp. 193–211, 10 figs. [Dipt.]
- 1016.—Gowen, J. W. Variegated eye colour in *Drosophila*. Anat. Rec., Philadelphia 51 1931 suppl. p. 109. [Dipt.]
- 1017.—Graenicher, S. Some observations on the biology of the Sarcophaginae (Diptera: Sarcophagidae). Ent. News, Philadelphia 42 1931 pp. 227–230.
- 1018.—Grandi, G. Contributi alla conoscenza biologica e morfologica degli Imenotteri melliferi e predatori. Boll. Lab. Ent. Bologna 3 1930 pp. 302–343, 4 pls. 13 figs. [Hym.]
- 1019.—Grandi, G. Scoperta di un nuovo Braconidae (*Perilitus morimi* Ferr.) parassita degli adulti del *Morimus asper* Sulz. (Coleoptera-Cerambycidae) e descrizione della sua larva. Boll. Lab. Ent. Bologna 4 1931 pp. 1–4, 2 figs. [Hym.]
- 1020.—Grandi, G. Agaonini raccolti da W. Greenwood nelle Isole Figi. Boll. Lab. Ent. Bologna 4 1931 pp. 8–11, 2 figs. [Hym.]
- 1021.—Grandori, R. Studi sulla nascita delle larve del *Bombyx mori* L. Boll. Lab. Zool. Bachicoltura Milano 2 1931 pp. 22–45, 12 pls. 1 fig. [Lep.]
- 1022.—Gray, J. The post-embryological development of the digestive system in *Homaledra sabalella* Chambers. Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 45–107, 21 pls. [Lep.]
- 1023.—Green, E. E. Two new mealybugs from India. Ann. Mag. Nat. Hist., London (10) 7 1931 pp. 557–560, 2 figs. [Hem.]
- 1024.—Green, E. E. Observations on British Coccidae. XIII. Ent. Mon. Mag., London 67 1931 pp. 99–106, 3 figs. [Hem.]
- 1025.—Green, T. L. The anatomy and histology of the alimentary canal of the common wasp (*Vespa vulgaris*). Proc. Zool. Soc. London 1931 pp. 1041–1066, 1 pl. 15 figs. [Hym.]
- 1026.—Greene, C. T. The immature stages of *Pantophthalmus tabaninus* Thunberg. With biological notes by F. W. Ulrich. Trans. Ent. Soc. London 79 1931 pp. 277–282, 3 pls. [Dipt.]

Greene, C. T. *see* Malloch, Greene & McAtee.

1027.—Greene, G. M. A rare Coleoptera paper of T. W. Harris. Trans. Amer. Ent. Soc., Philadelphia 44 1918 pp. 251–261.

1028.—Grempe, M. Ameisen als Feuerwehr. Ent. Rdsch., Stuttgart 48 1931 pp. 156–159. [Hym.]

Gresson, R. A. R. *see* Peacock & Gresson.

1029.—Gridelli, E. Dodicesimo contributo alla conoscenza degli Staphylinini specie Europee del genere *Cafius*. Boll. Soc. ent. ital., Genoa 63 1931 pp. 120–125. [Col.]

1030.—Gridelli, E. Note su alcuni Staphylinidae dell'Africa settentrionale. Boll. Soc. ent. ital., Genoa 63 1931 pp. 153–158, 1 fig. [Col.]

1031.—Gridelli, E. Osservazioni sul *Bembidion obtusum* e specie affini. Mem. Soc. ent. ital., Genoa 10 1931 pp. 54–65, 1 map. [Col.]

Grierson, M. C. *see* Morgan & Grierson.

1032.—Griffin, F. J. A note on "Förster (A.), Beiträge zur Monographie der Pteromalinen, Nees (Hymenoptera)." Ann. Mag. Nat. Hist., London (10) 7 1931 p. 498.

1033.—Griffin, F. J. Bremer (O.) & Grey (W.), "Beiträge zur Schmetterlings-Fauna des noerdlichen China's," 1853. Ann. Mag. Nat. Hist., London (10) 7 1931 p. 568.

1034.—Griffin, F. J. The dates of publication of Latreille and Dejean, "Hist. nat. Icon. Coléoptères d'Europe." Ann. Mag. Nat. Hist., London (10) 7 1931 p. 573.

1035.—Griffin, F. J. The dates of publication of Wood (W.): Index Entomologicus, 1833–1838. Ann. Mag. Nat. Hist., London (10) 8 1931 p. 178.

1036.—Griffin, F. J. On the dates of publication and contents of the parts of Strecker (H.) "Lepidoptera, etc." 1872–1900. Ann. Mag. Nat. Hist., London (10) 8 1931 pp. 257–258.

1037.—Griffin, F. J. On the dates of the parts of Meigen (J. W.), Syst. Besch. Eur. Schmett. Ann. Mag. Nat. Hist., London (10) 8 1931 p. 421.

1038.—Griffin, F. J. On the "Illustrations of Varieties of British Lepidoptera" by S. L. Mosley (1878–1885?). Ent. Rec., London 43 1931 pp. 161–166.

1039.—Griffin, F. J. & Griffin-Gillen, J. A hitherto unrecorded "Anzeige" by J. Hübner. Entomologist, London 64 1931 pp. 251–252, 1 pl.

1040.—Griffin, F. J. & Sherborn, C. D. A census of the known copies of Thomas Martyn's "Psyche" 1797. Library Assoc. Rec., London (3) 1 1931 pp. 192–196.

1041.—Griswold, G. H. On the length of the adult life in the webbing clothes moth, *Tineola biselliella* Hum. Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 761–764, 1 chart. [Lep.]

1042.—Gross-Heim, W. O. Beiträge zur Kenntnis der Halbfügler (Hemiptera-Heteroptera) der Ukraine. Trav. Mus. zool. Kiev no. 10 1931 pp. 63–114.

1043.—Grüneberg, H. Ueber die zeitliche Begrenzung genetischer Röntgenwirkungen bei *Drosophila melanogaster*. Biol. Zbl., Leipzig 51 1931 pp. 219–225, 1 fig. [Dipt.]

1044.—Gschwendtner, L. Revision der *Cybister tripunctatus*-Gruppe. Ent. Bl., Berlin 27 1931 pp. 65–70, 97–104, 1 pl.

1045.—Gschwendtner, L. Schwimmkäfer aus Belgisch-Kongo. Rev. Zool. Bot. afr., Brussels 20 1931 pp. 180–182. [Col.]

1045a.—Guenther, K. Beiträge zur Systematik und Geschichte der Phasmodenfauna Ozeaniens. Mitt. zool. Mus. Berlin 17 1931 pp. 753–835, 3 figs [Orth.]

1046.—Guenther, K. A naturalist in Brazil. London, Allen & Unwin 1931 400 pp. 32 pls. 40 figs.

1047.—Guhn, A. Die Zygaenen des Berliner Faunengebiets. Ent. Jahrb., Leipzig 41 1932 [1931] pp. 86–96.

1048.—Guiglia, D. Spedizione del barone Raimondo Franchetti in Danalia. Imenotteri Aculeati. Ann. Mus. Stor. nat. Genova 55 1931 pp. 157–164, 2 figs.

1049.—Guiglia, D. I tipi di *Ctenoplectra* del Museo civico de Storia naturale di Genova. Revisione delle diagnosi originali. Ann. Mus. Stor. nat. Genova 55 1931 pp. 168–175. [Hym.]

- 1050.—Guiglia, D. Alcune osservazioni intorno al nido e al bozzolo dello *Sceliphron spirifex* Lin. Boll. Soc. ent. ital., Genoa **63** 1931 pp. 45-48. [Hym.]
- 1051.—Guignot, F. Sur la systématique des *Agabus* (Col. Dytiscidae). Bull. Soc. ent. Fr., Paris **1931** pp. 201-203.
- 1052.—Guignot, F. Sur le *Siettitia avenionensis* Guig. et la valeur du genre *Siettitia* Ab. (Col. Dytiscidae). Bull. Soc. ent. Fr., Paris **1931** pp. 243-246.
- 1053.—Guignot, F. Notes sur quelques Dytiscides. Misc. ent., Castanet-Tolosan **33** 1931 pp. 5-7. [Col.]
- 1054.—Guignot, F. A propos de la systématique des *Hydroporus*. Misc. ent., Castanet-Tolosan **33** 1931 pp. 46-47. [Col.]
- 1055.—Gunder, J. D. Some new butterflies (Lepid., Rhopalocera). Bull. S. Calif. Acad. Sci., Los Angeles **30** 1931 pp. 45-48.
- 1056.—Gunn, D. L. The function of the air sacs of insects. Nature, London **127** 1931 pp. 58-59.
- 1057.—Gunn, D. L. Temperature and humidity relations of the cockroach. Nature, London **128** 1931 pp. 186-187, 1 fig. [Orth.]
- Günther see Guenther.
- 1058.—Gussakovskii, W. Hymenoptera Aculeata. [In Russian with German summary.] Abh. Pamir Exped. 1928, Leningrad **2** 1930 pp. 67-78.
- 1059.—Gussakovskii, W. Revue des espèces paléarctiques du genre *Priocnemis* Schdt. (Hymenoptera, Psammocharidae). [In Russian with Latin descriptions.] Annu. Mus. zool. Acad. Leningrad **31** 1930 pp. 227-290.
- 1060.—Gussakovskii, W. Contributions à la connaissance des espèces paléarctiques orientales du genre *Gastrosericus* Spin. (Hymenoptera, Sphecidae). [In Russian with Latin descriptions.] Annu. Mus. zool. Acad. Leningrad **31** (1930) 1931 pp. 449-457.
- 1061.—Gussakovskii, V. Revision du genre *Ceropales* Latr. Hymenoptera, Psammocharidae. [In Russian with Latin descriptions.] Annu. Mus. zool. Acad. Leningrad **32** 1931 pp. 1-27.
- 1062.—Gussakovskii, V. Revision der Gattung *Ammoplanus* Giraud und einigen verwandten Sphegideengattungen. Bol. Soc. esp. Hist. nat., Madrid **31** 1931 pp. 437-465, 24 figs. [Hym.]
- 1063.—Gussakovskii, V. Species novae vel parum cognitae generum *Ammophila* Kby. et *Sphex* L. (Hymenoptera, Sphecidae). [In Latin and Russian.] Rev. russe Ent., Leningrad **24** 1930 pp. 199-211.
- 1064.—Gussakovskii, V. Corrigenda et additamenta ad revisionem generis *Sollerella* Spin. (Hymenoptera). [In Russian and Latin.] Rev. russe Ent., Leningrad **24** 1930 pp. 232-235.
- 1065.—Guthörl, P. Eine neue Insektenart aus den Lebacher-Schichten des Saarländischen Rotliegenden. Verh. naturh. Ver. preuss. Rheinl., Bonn **86** (1929) 1930 pp. 138-140, 2 figs. [Fossil, Orth.]
- 1066.—Guthrie, E. Notes on egg hatching—larval, pupal and adult development in *Lina scripta* (Fabr.) (Coleoptera: Chrysomelidae). Pan-Pacific Ent., San Francisco **7** 1931 pp. 107-109.
- Haarup, A. C. Jensen—see Jensen-Haarup.
- 1067.—Hachfeld, G. Ueber die Primärlarve der *Meloë brevicollis* Panz. und über die bis jetzt bekannten Primärlarven deutscher Meloiden. Z. wiss. Insekt Biol., Berlin **26** 1931 pp. 42-47, 4 figs. [Col.]
- 1068.—Hachlow, V. Zur Entwicklungsmechanik der Schmetterlinge. Arch. Entw. Mech. Org., Berlin **125** 1931 pp. 26-49, 3 figs. [Lep.]
- 1069.—Hadden, F. C. The pelagic *Halobates*. Proc. Hawaii. Ent. Soc. 1929-30, Honolulu **7** 1931 pp. 457-459, 1 fig. [Hem.]
- 1070.—Hagan, H. R. The embryogeny of the Polycetenid, *Hesperortenes fumarius* Westwood, with reference to viviparity in insects. J. Morph., Philadelphia **51** 1931 pp. 1-118, 13 pls. [Hem.]
- 1071.—Haines, F. H. A provisional list of the Ichneumonidae of Dorset and Hampshire. Trans. Ent. Soc. S. England, Southampton **7** 1931 pp. 1-34.
- 1072.—Hainmüller, C. Ergänzungen zur Käferfauna Mecklenburgs. Arch. Ver. Fr. Naturges. Mecklenb., Rostock N.F. **5** (1930) 1931 pp. 59-62. [Col.]

- 1073.—Hall, D. G. New North American Sarcophagidae. *Ann. Ent. Soc. Amer.*, Columbus **24** 1931 pp. 181-182, 1 fig. [Dipt.]
- 1074.—Hall, D. G. New Texas Sarcophaginae (Diptera: Calliphoridae). *Ent. News*, Philadelphia **42** 1931 pp. 280-286, 4 figs.
- 1075.—Hall, L. B. Plant galls of Hampshire and Dorset. *Proc. Bournemouth Nat. Sci. Soc.* **19** 1927 pp. 56-58.
- 1076.—Hall, W. J. Observations on the Coccidae of Southern Rhodesia. *Trans. Ent. Soc. London* **79** 1931 pp. 285-303, 8 figs. [Hem.]
- 1077.—Hamilton, M. A. The morphology of the water-scorpion, *Nepa cinerea* Linn. (Rhynchota, Heteroptera). *Proc. Zool. Soc. London* **1931** pp. 1067-1136, 6 pls. 22 figs. [Hem.]
- 1078.—Hamlin, J. C., Reed, W. D. & Phillips, M. E. Biology of the Indian-meal moth on dried fruits in California. *Tech. Bull. U.S. Dept. Agric.*, Washington, D.C. **242** 1931 26 pp. 1 fig. [Lep.]
- 1079.—Hancock, G. L. R. & Soundy, W. W. Notes on the fauna and flora of Northern Bugishu and Masaba (Mt. Elgon). *J. E. Afr. Ug. Nat. Hist. Soc.*, Nairobi no. **36** (1929) 1931 pp. 165-183, 6 pls. 1 map.
- 1080.—Hanitsch, R. On a collection of Malayan Blattidae from the British Museum (Natural History). *Ann. Mag. Nat. Hist.*, London (10) **7** 1931 pp. 385-408, 12 figs. [Orth.]
- 1081.—Hansen, V. Biller. IX. Vandkaerer (Palpicornia: Hydrophilidae). *Danmarks Fauna*, Copenhagen **33** 1931 pp. 1-164, 30 figs. [Col.]
- 1082.—Hansen, V. Om et par arter af rovbilleslaegten *Staphylinus* L. *Flora og Fauna*, Copenhagen **1931** pp. 79-81, 4 figs. [Col.]
- 1083.—Hanson, F. B. & Heys, F. The relation between the induced lethal mutation rate and the conditions obtaining during treatment. I. Starvation. II. The influence of an anaesthetic. *Anat. Rec.*, Philadelphia **51** 1931 suppl. p. 121. [Dipt.]
- 1084.—Harder, —. Moderne Auffassungen über das Problem der Schutztrachten und Mimikry. *Int. ent. Z.*, Guben **24** 1931 pp. 504-507.
- 1085.—Hardouin, R. Matériaux d'éthologie concernant *Otiorrhynchus rugosostriatus* Goeze (Col. Curculionidae). *Bull. Soc. ent. Fr.*, Paris **1931** pp. 179-182, 3 figs.
- 1086.—Hardouin, R. *Stomodes gyrosicollis* Bohem., son aire actuelle de dispersion. *Misc. ent.*, Castanet Tolosan **33** 1931 pp. 25-27, 1 map. [Col.]
- 1087.—Hardy, G. H. On the genus *Damaromyia*, Kertész (Stratiomyidae). *Ann. Mag. Nat. Hist.*, London (10) **8** 1931 pp. 120-128. [Dipt.]
- 1088.—Hare, L. Polymorphism among the subgenera of *Nasutitermes*. *J. Morph.*, Philadelphia **52** 1931 pp. 593-607, 4 pls. [Isopt.]
- 1089.—Harnisch, O. Daten zur Respirationphysiologie Hämoglobinführender Chironomidenlarven. *Z. vergl. Physiol.*, Berlin **11** 1930 pp. 285-309, 1 fig. [Dipt.]
- 1090.—Harnisch, O. Der Einfluss verringerten Sauerstoff-Partialdrucks auf den Gaswechsel von Schnittstücken der Larve von *Chironomus thummi*. *Z. vergl. Physiol.*, Berlin **12** 1930 pp. 504-523. [Dipt.]
- 1091.—Harnisch, O. Die CO₂-Abgabe der *Chironomus*larve bei erhöhten CO₂-Partialdruck des Mediums. *Z. vergl. Physiol.*, Berlin **13** 1930 pp. 280-299, 3 figs. [Dipt.]
- 1092.—Harris, H. M. Nabidae from the State of Paraná. *Ann. Mus. zool. polon.*, Warsaw **9** 1931 pp. 179-185. [Hem.]
- 1093.—Harris, H. M. The genus *Aphelonotus* (Hemiptera, Nabidae). *Bull. Brooklyn Ent. Soc.* **26** 1931 pp. 13-20, 1 pl.
- Harris, H. M. *see* Drake & Harris.
- 1094.—Harrison, J. W. H. Some observations on Aleurodidae. *Ent. Rec.*, London **43** 1931 pp. 84-86. [Hem.]
- Hart, R. C. *see* Bishop & Hart.
- 1095.—Hartig, F. Diagnosi di alcune nuove forme di Lepidotteri della Venezia Tridentina. *Studi trentini*, Trento (2) **7** 1926 pp. 114-118.
- 1096.—Hartig, F. L'esplorazione faunistica della Venezia Tridentina. *Note di lepidotterologia*. *Studi trentini*, Trento (2) **7** 1926 pp. 140-164, 1 pl.

1097.—Hartig, F. Raccolte lepidotterologiche della stagione estivo-autunnale inviate al Museo civico di Storia naturale. Studi trentini, Trento (2) 8 1927 pp. 85–100.

1098.—Hartig, F. Note di lepidotterologia. Aggiunte alla fauna lepidotterologica della Venezia Tridentina. Studi trentini, Trento 9 1928 pp. 65–88, 8 figs.

1099.—Hartig, F. Nuove aggiunte alla fauna lepidotterologica della Venezia Tridentina. Studi trentini, Trento 11 1930 pp. 231–251, 1 pl.; 12 1931 pp. 3–36.

1100.—Hartline, H. K. A quantitative and descriptive study of the electric response to illumination of the Arthropod eye. Amer. J. Physiol., Baltimore 83 1928 pp. 466–483, 1 pl. 4 figs.

1101.—Hartig, G. Beitrag zur Kenntnis der Gattungen *Pemphredon* Latr. und *Cemonus* Jur. (Hym.). Konowia, Vienna 10 1931 pp. 81–84.

1102.—Hartig, G. Zur Kenntnis der deutschen *Psenulus*-Arten (Hym.). Stettin. ent. Ztg. 92 1931 pp. 203–210.

1103.—Hartung, W. Ueber die Tierbevölkerung von Bergwerksschächten im Vergleich zur Höhlentierwelt. SitzBer. Ges. naturf. Fr. Berlin 1931 pp. 216–255.

1104.—Hartzell, F. Z. Ecotopographic maps: Their use in entomology and notes on making. J. Econ. Ent., Geneva, N.Y. 24 1931 pp. 151–157, 1 fig.

1105.—Harukawa, C., Takato, R. & Kumashiro, S. Studies on the rice-borer, *Chilo simplex* Butler, I, II. Ber. Ohara Inst. Kuraschiki 5 1931 pp. 177–207, 8 figs., 208–220, 4 figs. [Lep.]

1106.—Harvey, E. N. & Stevens, K. P. The brightness of the light of the West Indian Elaterid beetle, *Pyrophorus*. J. Gen. Physiol., Baltimore 12 1928 pp. 269–272, 2 figs. [Col.]

1107.—Hase, A. Siphunculata; Anoplura; Aptera. Läuse. Biologie des Tiere Deutschlands, Berlin Teil 30 1931 58 pp. 59 figs.

1108.—Hase, A. Ueber die Lebensgewohnheiten einer Fledermausfliege in Venezuela; *Basilia bellardii* Rondani (Fam. Nycteribiidae-Diptera Pupipara).

Beiträge zur experimentellen Parasitologie 5. Z. Parasitenk., Berlin 3 1931 pp. 220–257, 17 figs.

1109.—Hase, A. Ueber die Eier und über die Larven des Fledermausflohes *Myodopsylla*. Beiträge zur experimentellen Parasitologie 6. Z. Parasitenk., Berlin 3 1931 pp. 258–263, 4 figs. [Siphonapt.]

1110.—Hase, A. Ueber Lebensbedingungen, Verhalten und Fruchtbarkeit der tropischen Hauswanze *Cimex rotundatus* Sign. (Hex. Rhynch.) in Venezuela. Beiträge zur experimentellen Parasitologie 7. Z. Parasitenkunde, Berlin 3 1931 pp. 837–893, 11 figs. [Hem.]

1111.—Haseman, L. Anatomy of the Hessian fly larva. J. Econ. Ent., Geneva, N.Y. 24 1931 pp. 417–419. [Dipt.]

1112.—Haseman, L. Observations on the wintering habits of the striped cucumber beetle. J. Econ. Ent., Geneva, N.Y. 24 1931 pp. 486–490. [Col.]

Hashimoto, S. *see* Esaki & Hashimoto.

1113.—Haskin, J. R. Some unusual occurrences of butterflies in Connecticut (Lepid.: Pieridae, Nymphalidae). Ent. News, Philadelphia 42 1931 pp. 201–202.

1114.—Haskins, C. P. Notes on the biology and social life of *Euponera gilva* Roger var. *harnedi* M. R. Smith. J. New York Ent. Soc. 39 1931 pp. 507–521. [Hym.]

1115.—Hatch, M. H. The status of Leng's classification of the Coleoptera. Ent. News, Philadelphia 42 1931 p. 76.

1116.—Hatch, M. H. Notes on *Phaedon*. Pan-Pacific Ent., San Francisco 7 1931 pp. 103–104. [Col.]

Haug, G. W. *see* Smith & Haug.

1117.—Haupt, H. Die europäischen Cercopidae Leach (Blutströpfchen- und Schaumzikaden). Ent. Jahrb., Leipzig 1919 pp. 152–172, 8 figs. [Hem.]

1118.—Haupt, H. Drei neue Psammochariden aus Italien (Hym.). Deuts. ent. Z., Berlin 1930 1931 pp. 235–240, 4 figs.

1119.—Haupt, H. Ableitung und Benennung des Flügelgäders bei den aculeaten Hymenopteren. Mitt. deuts. ent. Ges., Berlin 2 1931 pp. 118–126, 6 figs.

1120.—Haupt, H. Zur Sicherstellung einiger Arten der Homoptera Cicadina. Ein Beitrag zur Homopteren-Fauna des märkischen Odertals. Mitt. deuts. ent. Ges., Berlin 2 1931 pp. 151–159, 3 figs.

1121.—Hauser, G. Weiterer Beitrag zur Kenntnis der Untergattung *Apotomopterus* (Col. Carab.). Mitt. deuts. ent. Ges., Berlin 2 1931 pp. 4–5.

1122.—Haviland, M. D. The Reduviidae of Kartabo, Bartica District, British Guiana. Zoologica, New York 7 1931 pp. 129–154, 2 pls. [Hem.]

1123.—Hayes, W. P. Present status of the classification of immature insects. Trans. Illinois Acad. Sci., Springfield 24 1931 pp. 181–202.

1124.—Hayward, H. C. Some notes on Lepidoptera, 1926–1930. J. Derbyshire Arch. & Nat. Hist. Soc. no. 49, N.S. 2 1927 pp. 364–371; no. 50, N.S. 3 (1928–1929) 1930 pp. 106–108; 51, N.S. 4 (1930) 1931 pp. 141–145.

1125.—Hayward, K. J. Some further notes on insect migration in Argentina. Entomologist, London 64 1931 pp. 40–41.

1126.—Hayward, K. J. Contributions to the Lepidopterology of Argentina. I. Ent. Rec., London 43 1931 sep. pp. 1–8.

1127.—Hayward, K. J. A great Pierine migration in the Argentine: attacks by birds and insects upon the migrants. Proc. Ent. Soc. London 6 1931 pp. 32–33.

1128.—Hayward, K. J. Notas sobre una migración de *Pieris phileta automata* Burm. Rev. Soc. ent. argent., B. Aires 3 1931 pp. 225–232. [Lep.]

1129.—Hayward, K. J. Cuatro insectos anormales. Rev. Soc. ent. argent., B. Aires 3 1931 pp. 245–246, 4 figs.

1130.—Hayward, K. J. Normas para describir biología de lepidópteros. Rev. Soc. ent. argent., B. Aires 3 1931 pp. 257–264, 2 pls.

1131.—Hayward, K. J. Lepidopteros argentinos. Familia Nymphalidae. Rev. Soc. ent. argent., Buenos Aires 4 1931 pp. 1–200, 21 pls. 6 figs. [Lep.]

1132.—Headlee, T. J. The differential between the effect of radio waves on insects and on plants. J. Econ. Ent., Geneva, N.Y. 24 1931 pp. 427–437.

1133.—Headlee, T. J. A further contribution to knowledge on the influence of summer rainfall upon mosquito prevalence. Proc. 17th Ann. Mtg. New Jersey Mosq. Exterm. Ass. 1930 New Brunswick 1930 pp. 124–130, 4 graphs. [Dipt.]

1134.—Heath, H. Experiments in termite caste development. Science, New York 73 1931 p. 431. [Isopt.]

1135.—Hebard, M. Die Ausbeute der deutschen Chaco-Expedition 1925–26. —Orthoptera. Konowia, Vienna 10 1931 pp. 257–285, 1 pl. 2 figs.

1136.—Hebard, M. Studies on lower Californian Orthoptera. Trans. Amer. Ent. Soc., Philadelphia 57 1931 pp. 113–127 1 pl.

1137.—Hebard, M. The Mogoplistinae (Orthoptera, Gryllidae) of the United States. Trans. Amer. Ent. Soc., Philadelphia 57 1931 pp. 135–160, 2 pls.

Hebard, M. *see* Rehn & Hebard.

1138.—Heberdey, R. F. Die Anthiciden und Hylophiliden der Deutschen Limnologischen Sunda-Expedition. Arch. Hydrobiol., Stuttgart Suppl. 8 1931 pp. 677–679. [Col.]

1139.—Heberdey, R. F. Zur Entwicklungsgeschichte, vergleichenden Anatomie und Physiologie der weiblichen Geschlechtsausführewege der Insekten. Z. Morph. Oekol. Tiere, Berlin 22 1931 pp. 416–586, 85 figs.

1140.—Hecht, O. Ueber den Wärmesinn der Stechmücken bei der Eiablage. Riv. Malariol., Rome 9 1930 pp. 706–724, 3 figs. [Dipt.]

1141.—Hecht, S. & Wolf, E. The visual acuity of the honey bee. J. Gen. Physiol., Baltimore 12 1929 pp. 727–760, 8 figs. [Hym.]

1142.—Heddergott, —. Aufsuchen von Sesienraupen. Int. ent. Z., Guben 25 1931 pp. 21–24. [Lep.]

1143.—Hedicke, H. Beiträge zur Synonymie der Apiden (Hym.). I. Mitt. deuts. ent. Ges., Berlin 2 1931 pp. 34–38.

1144.—Hedicke, H. Entomologische Ergebnisse der Deutsch-Russischen Alai-Pamir-Expedition 1928 (II). 2. Hymenoptera V. Apidae, Genus *Anthophora* Latr. Mitt. zool. Mus. Berlin 16 (1930) 1931 pp. 845–857.

Hedicke, H. *see* Bischoff & Hedicke.

1145.—Heidermanns, C. Reizphysiologische Untersuchungen an der Flugmuskulatur von *Aeschna coerulea*. Zool. Jahrb., Jena Allg. Zool. 50 1931 pp. 1-31, 15 figs. [Odon.]

1146.—Heinrich, C. A new pine moth from Connecticut. Proc. Ent. Soc. Washington 33 1931 pp. 196-197. [Lep.]

1147.—Heinrich, C. Notes on and descriptions of some American moths. Proc. U.S. Nat. Mus., Washington, D.C. 79 art. 13 no. 2879 1931 16 pp. 7 pls. 1 fig. [Lep.]

1148.—Heinrich, G. Zur Systematik der Ichneumoninae stenopneusticae IV. Konowia, Vienna 10 1931 pp. 29-33. [Hym.]

1149.—Heinrich, G. Beiträge zur Systematik der Ichneumoninae stenopneusticae (Hym.). IV. Mitt. deuts. ent. Ges., Berlin 2 1931 pp. 27-32.

Heinrich, G. see Mell & Heinrich.

1150.—Heinze, E. Ein neues Criocerinen-Subgenus mit einer neuen Art. Ent. NachrBl., Troppau 5 1931 pp. 53-54. [Col.]

1151.—Heinze, E. Ueber neue und bekannte afrikanische Criocerinen, grossenteils aus Londoner Museen. Wien. ent. Ztg. 48 1931 pp. 175-213, 19 figs. [Col.]

1152.—Hellé, F. Eléage à Nice de *Rothschildia aurota* Westw. du Brésil. Riviera sci., Nice 18 1931 pp. 33-34. [Lep.]

1153.—Hellén, W. Inventa entomologica itineris Hispanici et Maroccani, quod a. 1926 fecerunt Harald et Håkan Lindberg. VI. Dryinidae et Bethyliidae. Comment. Biol. Soc. Sci. Fenn., Helsingfors 3 1930 no. 11 pp. 1-6, 2 figs. [Hym.]

1154.—Hellén, W. För Finland nya eller sällsynta Coleoptera. Mem. Soc. Fauna fenn., Helsingfors 5 (1928-29) 1930 pp. 95-97.

1155.—Hellén, W. Verzeichnis der in den Jahren 1926-1930 für die Fauna Finnlands neu hinzugekommenen Insektenarten. Notul. ent., Helsingfors 11 1931 pp. 51-66.

1156.—Hellén, W. Zur Kenntniss der Cynipiden-Fauna Islands. Göteborgs Vetensk. Samh. Handl. (5B) 2 no. 5 1931 pp. 1-8. [Hym.]

1157.—Heller, J. Zur Auffassung des Unterschiedes zwischen subitaner und latenter Entwicklung von Schmetterlingspuppen. Z. vergl. Physiol., Berlin 8 1928 pp. 99-101. [Lep.]

1158.—Heller, J. Sauerstoffverbrauch der Schmetterlingspuppen in Abhängigkeit von der Temperatur. Z. vergl. Physiol., Berlin 11 1930 pp. 448-460, 6 figs. [Lep.]

1159.—Heller, J. Quantitative Studien über die Erbfactoren der Stoffwechselgrösse bei den Schmetterlingspuppen. Biol. Zbl., Leipzig 51 1931 pp. 259-269, 3 figs. [Lep.]

1160.—Heller, J. & Mokłowska, A. Ueber die Zusammensetzung des Raupenblutes bei *Deilephila euphorbiae* und deren Veränderungen im Verlauf der Metamorphose. Chemische Untersuchungen über die Metamorphosis der Insekten. VII. Biochem. Z., Berlin 219 1930 pp. 473-489. [Lep.]

1161.—Heller, K. M. H. Sauter's Formosa - Ausbeute (Curculionidae). Wien. ent. Ztg. 48 1931 pp. 96-112, 2 figs. [Col.]

1162.—Hemming, A. F. On the dates of publication of F. Ruhl's "Die palaearktischen Grossschmetterlinge und ihre Naturgeschichte." Ann. Mag. Nat. Hist., London (10) 8 1931 pp. 405-406.

1163.—Hemming, A. F. Description of three Palaearctic butterflies. Ann. Mag. Nat. Hist., London (10) 8 1931 pp. 534-536. [Lep.]

1164.—Hemming, A. F. On two little-known species of the genus *Scolitantides*, Hb. (Lep., Lycaenidae). Ann. Mag. Nat. Hist., London (10) 8 1931 pp. 577-579.

1165.—Hemming, A. F. On the types of certain genera of the family Pieridae (Lepidoptera). Entomologist, London 64 1931 pp. 272-273.

1166.—Hemming, A. F. A comparison of the Icones Papilionum Diurnorum and Nomenclatur und Beschreibung der Insekten of Bergsträsser. Proc. Ent. Soc. London 5 1931 pp. 81-82.

1167.—**Hemming, A. F.** Notes on the date of issue of the parts of Volume I of W. H. Edwards' "Butterflies of North America" and on the plates by Wiest in that work subsequently rejected by the author. *Proc. Ent. Soc. London* **6** 1931 pp. 42–45. [Lep.]

1168.—**Hemming, A. F.** Revision of the genus *Iolana*, Bethune-Baker (Lepidoptera, Lycaenidae). *Trans. Ent. Soc. London* **79** 1931 pp. 323–333, 1 pl.

1169.—**Hemming, A. F.** New material regarding the dates of the plates of the Papiliones in Jacob Hübner's "Sammlung europäischer Schmetterlinge," with notes on the synonymy and type localities of certain species described therein. *Trans. Ent. Soc. London* **79** 1931 pp. 493–504. [Lep.]

1170.—**Hendel, F.** Agromyzidae. In *LINDNER Flieg. Palaeark. Reg.* **59** 1931 pp. 1–256, 259 figs.

1171.—**Hendel, F.** Nachtrag zu den palaearktischen Trypetiden (neue aegyptische Arten, von Prof. Efflatoun Bey gesammelt). *Bull. Soc. ent. Egypte, Cairo* **1931** pp. 1–12, 1 pl. [Dipt.]

1172.—**Hendel, F.** Neue aegyptische Dipteren aus der Gruppe der acalyptraeten Musciden, gesammelt von Prof. Efflatoun Bey. *Bull. Soc. ent. Egypte, Cairo* **1931** pp. 59–73, 1 fig. [Dipt.]

1173.—**Hendel, F.** Kritische und synonymische Bemerkungen über Dipteren. *Verh. zool.-bot. Ges. Wien* **81** 1931 pp. 4–19.

1174.—**Hendrickson, G. O.** Subterranean insects of marsh grass (*Spartina michauxiana* Hitchcock). *Canad. Ent., Orillia* **63** 1931 pp. 109–110.

1175.—**Henriot, P.** Quelques indications sur les papillons des Basses-Pyrénées. *Amat. Papillons, Paris* **5** 1931 pp. 316–320.

1176.—**Henry, G. M.** New Ceylonese Rhynchota. *Spolia zeylan., Colombo* **16** 1931 pp. 115–121, 3 pls.

1177.—**Henry, G. M.** New Ceylonese Mantidae. *Spolia zeylan., Colombo* **16** 1931 pp. 123–128, 2 figs. [Orth.]

Hepburn, G. A. see Ripley & Hepburn.

1178.—**Hepp, A.** Bibliographische Bemerkungen zum Coleopterorum Catalogus Pars 46. A. Boucomont Scara-

baeidae: Taurocerastinae Geotrupinae, W. Junk, Berlin 7 ix 1912. *Ent. Anz., Vienna* **11** 1931 pp. 197–199.

1179.—**Hepp, A.** Bemerkungen zu: Wilhelm Lommatzsch, Die Grossschmetterlingsfauna um Frankfurt (Main) im Jahre 1929. (*Ent. Anz.* 1930, S. 391 ff.) *Ent. Anz., Vienna* **11** 1931 pp. 289–292, 329–332, 369–372, 409–412. [Lep.]

1180.—**Hepp, A.** Zusammenstellung der Noctuiden, Cymatophoriden und Brepiden aus der Umgebung von Frankfurt am Main. *Ent. Z., Frankfurt a. M.* **44** 1931 pp. 298–302, 314–316, 342–345; **45** 1931 pp. 11–15. [Lep.]

1181.—**Hepp, A.** Zusammenstellung der in den Jahrgängen 1 bis 40 (1892 bis 1931) des Entomologischen Jahrbuchs erschienenen Mitteilungen über die Biologie (a) der Coleoptera, (b) der Lepidoptera. *Ent. Jahrb., Leipzig* **41** 1932 [1931] pp. 53–62.

1182.—**Herber, E. C. & Slifer, E. H.** The regularity of respiratory movements of Locustidae. *Physiol. Zool., Chicago* **1** 1928 pp. 593–602, 9 figs. [Orth.]

1183.—**Hering, M.** In *SEITZ Grossschmett.* **10** 1931 Limacodidae pp. 665–720, 4 pls.

1184.—**Hering, M.** Minierer an Wasserpflanzen. *Ent. Jahrb., Leipzig* **41** 1932 [1931] pp. 69–76 3 figs.

1185.—**Hering, M.** Ueber die Mine und das Vorkommen von *Scolioneura nana* Klug in der Mark Brandenburg (Tenth. Hym.). *Mitt. deuts. ent. Ges., Berlin* **2** 1931 pp. 109–111, 1 fig.

1186.—**Hering, M.** Eine Zwillingssflügelbildung bei *Oxyplax ochracea* Moore (Lepidopt. Cochliopod.). *Z. Morph. Oekol. Tiere, Berlin* **23** 1931 pp. 369–372, 2 figs.

1187.—**Hering, M.** Minenstudien 11. *Z. wiss. InsektBiol., Berlin* **26** 1931 pp. 93–108, 5 figs. [Dipt.]

1188.—**Hering, M.** Minenstudien 12. *Z. PflKrankh., Stuttgart* **41** 1931 pp. 529–551, 7 figs. [Dipt., Lep.]

Hering, M. see Amsel & Hering.

1189.—**Heriot, A. D.** Some notes on the oyster-shell scale. *Proc. Ent. Soc. Br. Columbia, Vancouver* **28** 1931 pp. 5–13. [Hem.]

1190.—Hermitte, L. C. D. Occurrence of *Anopheles gambiae* (*costalis*) in Aldabra Islands (Seychelles). Rec. Malaria Surv. India, Calcutta 2 1931 pp. 643–654, 3 pls. 2 figs. [Dipt.]

1191.—Hertweck, H. Anatomie und Variabilität des Nervensystems und der Sinnesorgane von *Drosophila melanogaster* (Meigen). Z. wiss. Zool., Leipzig 139 1931 pp. 559–663, 1 pl. 43 figs. [Dipt.]

1192.—Hertz, M. Beobachtungen über die Aufenthaltsorte der Raubkäfer. Ann. Soc. zool.-bot. fenn. Vanamo, Helsinki 8 1929 pp. (47)–(51). [Col.]

1193.—Hertz, M. Die Organisation des optischen Feldes bei der Biene. I–III. Z. vergl. Physiol., Berlin 8 1929 pp. 693–748, 11 figs.; 11 1929 pp. 107–145, 59 figs.; 14 1931 pp. 629–674, 27 figs. [Hym.]

1194.—Hetschko, A. Colydiidae. Coleopt. Catalogus, Berlin 107 1930 124 pp.

1195.—Hetschko, A. Phalacridae, Mycetophagidae, Tretothoracidae, Jacobsoniidae, Cavicoxumidae, Gnositidae. Coleopt. Catalogus, Berlin 108 1930 pp. 1–48, 1–26, 1, 1, 1, 1 respectively.

1196.—Hetschko, A. Cucujidae, Thorictidae (suppl.), Cossyphodidae (suppl.). Coleopt. Catalogus, Berlin 109 1930 pp. 1–122, 1, 1 respectively.

1197.—Hetschko, A. Ueber einige von Dr. C. Hampe im Jahre 1852 beschriebene Käferarten. Wien. ent. Ztg. 48 1931 p. 174. [Col.]

1198.—Hetschko, A. Bemerkungen über einige *Liponeura*-Arten. Wien. ent. Ztg. 48 1931 pp. 213–214. [Dipt.]

1199.—Heuer, —. Methoden und Fundplätze beim Käfersammeln. Int. ent. Z., Guben 24 1931 pp. 224–227. [Col.]

1200.—Heydemann, F. Die Arten der *Hydroecia* (*Apamea*) *nictitans* L.-Gruppe. Ent. Z., Frankfurt a. M. 44 1931 pp. 345–350, 357–362; 45 1931 pp. 2–7, 18–22, 33–38, 49–54, 66–71, 77–79, 109–110, 6 pls. [Lep.]

1201.—Heydemann, F. Nochmalige Erwiderung zu: *Dysstr. citrata* L. und *truncata* Hfn. Int. ent. Z., Guben 24 1931 pp. 405–410. [Lep.]

1202.—Heydemann, —. *Leucania favicolor* Barr und *L. littoralis* Curt. in Schleswig-Holstein. Int. ent. Z., Guben 24 1931 pp. 445–447, 1 pl. [Lep.]

1203.—Heydemann, F. *Lyc. ismenias* Meigen 1830 (nom. specif. pro *insularis* Leech 1893), ein bisher unbekannter, deutscher Bläuling. Int. ent. Z., Guben 25 1931 pp. 129–133, 141–144, 149–152, 2 pls. [Lep.]

1204.—Heymons, R. & Lengerken, H. von. Studien über die Lebenserscheinungen der Silphini (Coleopt.). VII. *Oceoptoma thoracica* L. Z. Morph. Oekol. Tiere, Berlin 20 1931 pp. 691–706, 3 figs.

1205.—Heyrovský, L. Catalogus coleopterorum Cechosloveniae. [Contd.] Acta Soc. ent. Čech., Prague 17 1930 suppl. pp. 17–61.

1206.—Heyrovský, L. Beitrag zur Kenntnis der Tribus Lepturini (Col. Cerambyc.). Ent. NachrBl., Troppau 5 1931 pp. 21–23.

1207.—Heyrovský, L. Beitrag zur Kenntnis der bulgarischen Cerambyciden. Mitt. naturw. Inst. Sofia 4 1931 pp. 78–86, 2 figs. [Col.]

Heys, F. see Hanson & Heys.

1208.—Hickman, J. R. Contribution to the biology of Halipidae (Coleoptera). Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 129–142.

1209.—Hickman, J. R. Respiration of the Halipidae (Coleoptera). Pap. Michigan Acad. Sci., Ann. Arbor 13 1931 pp. 277–289, 4 figs.

1210.—Hicks, C. H. Notes on certain bees, with a consideration of the use of the abdomen in nest construction. Canad. Ent., Orillia 63 1931 pp. 173–178. [Hym.]

1211.—Hiestand, W. A. Is the effect of thyroid and thyroxin upon the metabolic rate specific for vertebrates? Proc. Soc. Exp. Biol., New York 28 1930 pp. 64–65.

1212.—Hiestand, W. A. The influence of varying tensions of oxygen upon the respiratory metabolism of certain aquatic insects and the crayfish. Physiol. Zool., Chicago 4 1931 pp. 246–270, 4 figs. [Odon., Trichopt.]

1213.—Higgins, L. G. On the generic names used by Freyer in the *Neuere Beiträge*. Ent. Rec., London **43** 1931 pp. 14-15. [Lep.]

1214.—Higgins, L. G. Two forgotten butterfly names. Entomologist, London **64** 1931 pp. 25-26. [Lep.]

1215.—Hildebrandt, L. Description d'une nouvelle espèce du genre *Cyrtus* (Diptera, Acroceridae) provenant de la Chine. [In Russian and French.] Annu. Mus. zool. Acad. Leningrad **31** 1930 pp. 219-221, 1 fig.

1216.—Hill, C. C. & Smith, H. D. *Heterospilus cephi* Rohwer, a parasite of the European wheat sawfly, *Cephus pygmaeus* (L.). J. Agric. Res., Washington, D.C. **43** 1931 pp. 597-609, 8 figs. [Hym.]

1217.—Hill, C. C. & Smith, H. D. Seasonal history and morphological notes on *Polyscelis modestus* Gahan. Proc. Ent. Soc. Washington **33** 1931 pp. 182-184, 1 pl. [Hym.]

1218.—Hill, G. F. Termites from the Australian Region: Descriptions of new species and hitherto undescribed castes. Proc. Roy. Soc. Victoria, Melbourne **37** 1925 pp. 206-229, 4 pls. [Isopt.]

1219.—Hille Ris Lambers, D. Notes on the Aphididae of Venezia Tridentina, with descriptions of new species. Parts I and II. Mem. Mus. Stor. nat. Venezia tridentina, Trento **1** 1931 pp. 15-24, 4 pls.; 29-38, 3 pls. [Hem.]

1220.—Hille Ris Lambers, D. A list of the Aphididae of Venezia Tridentina. Parts I and II. Mem. Mus. Stor. nat. Venezia tridentina, Trento **1** 1931 pp. 25-28, 39-43 (with addenda in pp. 36-37). [Hem.]

1221.—Hille Ris Lambers, D. Two new gallforming species of *Astegopteryx* Karsch from *Styrax*. Misc. zool. sumat., Medan **55** 1931 5 pp. 4 figs. [Hem.]

1222.—Hille Ris Lambers, D. Contribution to the knowledge of the Aphididae (Hom.) I. Tijdschr. Ent., Amsterdam **74** 1931 pp. 169-183, 2 figs.

1223.—Himmer, A. Ueber die Wärme im Hornissenest (*Vespa crabro* L.). Z. vergl. Physiol., Berlin **13** 1931 pp. 748-761, 5 figs. [Hym.]

1224.—Hincks, W. D. Notes on the Passalidae. Ent. Mon. Mag., London **67** 1931 pp. 127-130. [Col.]

1225.—Hincks, W. D. & Dibb, J. R. Changes in the nomenclature of Diptera. Naturalist, London **1931** pp. 175-176.

1226.—Hingston, R. W. G. Pollen on the wings of *Papilio* butterflies. Proc. Ent. Soc. London **5** 1931 pp. 114-117, 1 fig. [Lep.]

1227.—Hinman, E. H. *Pediculus* (*Parapediculus*) *atelophilus* Ewing 1926 from the red spider monkey, *Ateles geoffroyi*. Parasitology, Cambridge **23** 1931 pp. 488-491, 2 figs. [Anoplura.]

1228.—Hirschler, J. Observations au sujet de l'influence réciproque des larves des insectes. C.R. Acad. Cra-covie **1931** no. 6 pp. 7-8.

1229.—Ho, C. Study of the adult Culicids of Peiping. Bull. Fan Mem. Inst. Biol., Peiping **2** 1931 pp. 107-175, 16 figs. [Dipt.]

1230.—Hobby, B. M. The prey of *Coenosia tigrina*, F., and other species of the genus. Proc. Ent. Soc. London **6** 1931 pp. 13-15. [Dipt.]

1231.—Hobby, B. M. The prey of dung-flies (Diptera, Cordyluridae). Proc. Ent. Soc. London **6** 1931 pp. 47-49.

1232.—Hobby, B. M. The British species of Asilidae (Diptera) and their prey. Trans. Ent. Soc. S. England, Southampton **1930** 1931 pp. 1-42.

1233.—Hobby, B. M. A list of the prey of dung-flies (Diptera, Cordyluridae). Trans. Ent. Soc. S. England, Southampton **7** 1931 pp. 35-39.

1234.—Hobson, R. P. On an enzyme from blow-fly larvae (*Lucilia sericata*) which digests collagen in alkaline solution. Biochem. J., Cambridge **25** 1931 pp. 1458-1463, 1 fig. [Dipt.]

1235.—Hobson, R. P. Studies on the nutrition of blow-fly larvae: i. Structure and function of the alimentary tract. J. Exp. Biol., London **8** 1931 pp. 109-123, 4 figs. [Dipt.]

1236.—Hodge, C. Growth and nutrition of *Melanoplus differentialis* Thomas (Orthoptera: Acrididae). 1. Growth on a satisfactory mixed diet and on diets of single food-plants. Anat. Rec., Philadelphia **51** 1931 suppl. pp. 34-35.

- 1237.—Hodson, W. E. H. A comparison of the immature stages of *Eumerus tuberculatus*, Rond., and *Syritta pipiens*, Linn. (Syrphidae). Bull. Ent. Res., London **22** 1931 pp. 55–58, 3 figs. [Dipt.]
- 1238.—Hoffmann, A. Description d'un *Bagous* nouveau de France (Col. Curculionidae). Bull. Soc. ent. Fr., Paris 1931 pp. 68–70, 2 figs.
- 1239.—Hoffmann, A. Sur la synonymie de quelques espèces de Curculionides. Bull. Soc. ent. Fr., Paris 1931 pp. 153–158, 2 figs. [Col.]
- 1240.—Hoffmann, A. Liste des Coléoptères capturés à l'excursion dans les Monts du Lyonnais. Bull. Soc. ent. Fr., Paris 1931 pp. 171–173.
- 1241.—Hoffmann, A. Description de la larve d'*Otiorrhynchus rugosostriatus* Goeze (Col. Curculionidae). Bull. Soc. ent. Fr., Paris 1931 pp. 183–184.
- 1242.—Hoffmann, C. C. Estudios entomologicos y parasitologicos acerca de la Onchocercosis de Chiapas. Salubridad, Mexico 1930 no. 3 1931 reprint 31 pp. 20 figs. [Dipt.]
- 1243.—Hoffmann, C. C. Los Simulidos de la region Onchocercosa de Chiapas. Segunda Parte. An. Inst. Biol. Univ. Mexico **2** 1931 pp. 207–218, 18 figs. [Dipt.]
- 1244.—Hoffmann, C. H. Chironomid larvae associated with water-snails. Bull. Brooklyn Ent. Soc. **26** 1931 pp. 71–74. [Dipt.]
- 1245.—Hoffmann, F. Hochlandsreise 1930. Ent. Jahrb., Leipzig **41** 1932 [1931] pp. 123–132. [Lep.]
- 1246.—Hoffmann, F. Beiträge zur Naturgeschichte brasilianischer Schmetterlinge. II, III. Z. wiss. Insekt Biol., Berlin **26** 1931 pp. 1–8, 109–124. [Lep.]
- 1247.—Hoffmann, W. E. Notes on the biology of *Ranatra filiformis* (Hemiptera, Nepidae). Lingnan Sci. J., Canton **9** 1931 pp. 385–392, 2 pls.
- 1248.—Hoffmann, W. E. Coprophagous beetles from Hainan Island. Lingnan Sci. J., Canton **10** 1931 pp. 501–502. [Col.]
- 1249.—Hoffmeyer, E. B. Beiträge zur Kenntnis der dänischen Callimiden, mit Bestimmungstabellen der europäischen Arten (Hym. Chalc.) (contd.). Ent. Medd., Copenhagen **17** 1931 pp. 261–285, 11 figs.
- 1250.—Hoffmeyer, E. B. Nye og sjældne danske Zoocecidier. Ent. Medd., Copenhagen **17** 1931 pp. 381–388.
- 1251.—Hoffmeyer, S. Sjældnere natommerfugle fra Bornholm. Flora og Fauna, Copenhagen 1931 pp. 1–16, 2 figs. [Lep.]
- 1252.—Hoffmeyer, S. & Knudsen, S. Bornholmske naetter. Flora og Fauna, Copenhagen 1931 pp. 129–136, 1 fig. [Lep.]
- 1253.—Hofker, J. De dierspsychologie in het middelbaar onderwijs. Vakbl. Biol., Herder **12** 1931 pp. 77–87.
- 1254.—Hohndorf, A. Ein frontaler Zwitter von *Halictus tumulorum* L. (Hym. Apid.). Mitt. deuts. ent. Ges., Berlin **2** 1931 p. 25, 1 fig.
- 1255.—Höhnelt, W. Zur Biologie des Bienenschwarmes. Arch. Bienenkunde, Neumünster i. Holstein **10** 1929 pp. 158–174. [Hym.]
- 1256.—Holik, O. Totaler albinismus bei böhmischen Satyriden (Lepidopt.). Acta Soc. ent. Cech., Prague **27** 1930 pp. 70–74.
- 1257.—Holik, O. Ein Beitrag zur Kenntnis der mährischen *Zyg. carnioleca*-Rassen. Int. ent. Z., Guben **24** 1931 pp. 433–437. [Lep.]
- 1258.—Holland, W. J. Notes on some American butterflies mainly relating to classification and nomenclature. Parts 2 and 3. Ann. Carnegie Mus., Pittsburg **20** 1930 pp. 39–55; 1931 pp. 255–265. [Lep.]
- 1259.—Holland, W. J. The butterfly book. New York, Doubleday, Doran & Co. revd. edn. 1931 xii + 424 pp. 77 pls. 198 figs.
- 1260.—Hollande, A.-C. La digestion des bacilles tuberculeux par les leucocytes du sang des chenilles. Arch. Zool. exp. gén., Paris **70** 1930 pp. 231–280, 1 pl. 3 figs.
- 1261.—Hollas, F. et al. Zucht von *Orodemnia quenselii* Payk. Ent. Anz., Vienna **11** 1931 pp. 105–108, 130–133, 149–152, 169–176, 189–192, 214–215, 5 figs. [Lep.]
- 1262.—Holloway, J. K. Temperature as a factor in the activity and development of the Chinese strain of *Tiphia popillivora* (Rohw.) in New Jersey and Pennsylvania. J. New York Ent. Soc. **39** 1931 pp. 555–564, 1 pl. [Hym.]

1263.—Hood, J. D. A new genus and species of Aeolothripidae (Thysanoptera) from Chile. Bull. Brooklyn Ent. Soc. 26 1931 pp. 1-3, 1 fig.

1264.—Hood, J. D. Notes on New York Thysanoptera, with descriptions of new genera and species. III. Bull. Brooklyn Ent. Soc. 26 1931 pp. 151-168, 2 pls.

1265.—Hood, J. D. Synonyms in North American Thysanoptera. Pan-Pacific Ent., San Francisco 7 1931 pp. 170-172.

1266.—Hooper, C. H. Insect visitors to fruit blossoms. J. S.-E. Agric. Coll. Wye, Kent no. 28 1931 pp. 211-215.

1267.—Hopkins, G. H. E. Larvae of Ethiopian mosquitos. Bull. Ent. Res., London 22 1931 pp. 89-104, 15 figs. [Dipt.]

1268.—Hopping, R. III. New Coleoptera from western Canada. Canad. Ent., Orillia 63 1931 pp. 233-238.

1269.—Hopping, R. Notes on *Pogonocherus*. Pan-Pacific Ent., San Francisco 7 1931 pp. 105-106. [Col.]

1270.—Hora, S. L. Indian net-veined midges or Blepharoceridae (Insecta: Diptera). J. Bombay Nat. Hist. Soc. 35 1931 pp. 342-346, 1 pl. 4 figs.

1271.—Horn, W. On two little-known neotropical Cicindelids. Rev. chil. Hist. nat., Santiago de Chile 34 1930 pp. 310-311. [Col.]

1272.—Horn, W. Zur Kenntnis der Cicindelen-Fauna von Cypern, Syrien, Sizilien, Aegypten und Süd-Griechenland (insbesondere der geographischen Verbreitung der Arten *Cicindela aphrodisia* Baudi, *C. campestris suffriana* Loew, *C. contorta* Fisch. und *dorsata* Br., sowie *C. aulica* Dej.). Bull. Soc. ent. Egypte, Cairo 1931 pp. 157-163, 1 fig. [Col.]

1273.—Horn, W. Zwei neue Cicindelen von Borneo und Celebes. Ent. NachrBl., Troppau 5 1931 pp. 3-6. [Col.]

1274.—Horn, W. Some Cicindelidae from Mt. Kinabalu, North Borneo, including a new species. J. F.M.S. Mus., Kuala Lumpur 16 1931 pp. 287-289. [Col.]

1275.—Horn, W. How to collect Cicindelids and their larvae in Hong Kong and vicinity. Hong Kong Nat. 2 1931 pp. 258-261, 7 figs. [Col.]

1276.—Horn, W. A catalogue of the Chinese Cicindelinae including Macao, Hong Kong, and the "exterior" provinces of China. Lingnan Sci. J., Canton 9 1931 pp. 397-413. [Col.]

1277.—Horn, W. The Cicindelids collected by the Lingnan University Fifth Hainan Island Expedition 1929. Lingnan Sci. J., Canton 10 1931 pp. 493-494. [Col.]

1278.—Horn, W. Die Cicindeliden-fauna von Bolivien. Rev. Ent., São Paulo 1 1931 pp. 19-30. [Col.]

1279.—Horváth, G. Les Hémiptères aquatiques et semi-aquatiques du Lac Balaton. [In Hungarian with French summary.] Arb. Ung. biol. Forsch. Inst., Tihany 4 1931 pp. 59-63.

1280.—Hoscheck, A. B. Beiträge zur Kenntnis der Buprestiden (Col.) III, IV. Mitt. zool. Mus. Berlin 17 1931 pp. 133-164, 11 figs.; 724-743

1281.—Hottes, F. C. Notes concerning the first papers dealing with the Aphid fauna of America. Proc. Biol. Soc. Washington 44 1931 pp. 61-70. [Hem.]

1282.—Hottes, F. C. & Frison, T. H. The plant lice, or Aphididae, of Illinois. Bull. Illinois Nat. Hist. Surv., Urbana 19 1931 pp. 121-447, 10 pls. 50 figs. [Hem.]

1283.—Houard, J. La collection de galles de Gustav Mayr conservée à l'Institut botanique de Strasbourg. Marcellia, Avellino 27 1931 pp. 9-27, 1 fig.

1284.—Hsü, Yin-Ch'i. Morphology, anatomy and ethology of *Gryllus mitratus* Burm. Lingnan Sci. J., Canton 10 1931 pp. 187-216, 5 pls. [Orth.]

1285.—Hsü, Yin-Ch'i. A revised list of known species of crickets from the China coast. Peking Nat. Hist. Bull., Peiping 5 1931 pt. 4 pp. 17-25. [Orth.]

1286.—Hsü, Yin-Ch'i. Two new species of mayflies from China (Order Ephemeridae). Peking Nat. Hist. Bull., Peiping 6 1931 pt. 2 pp. 39-41, 1 pl.

1287.—Hubault, E. Contribution à l'étude faunistique des sources de la craie sénonienne. Bull. biol. France-Belg., Paris **65** 1931 pp. 152-169, 1 fig. [Insects pp. 152-158.]

1288.—Huhst, E. Ueber *Argynnis*-Zuchten. Int. ent. Z., Guben **25** 1931 pp. 117-127, 1 pl. [Lep.]

1289.—Hukkinen, Y. Vom Gebiete der Thysanopterologie. Notul. ent., Helsingfors **11** 1931 pp. 29-37.

1290.—Hulkkonen, O. Die Hummeln als Gäste der Blattläuse. Ann. Soc. zool.-bot. fenn. Vanamo, Helsinki **8** 1929 pp. (51)-(54). [Hym., Hem.]

1291.—Hulstaert, R. P. G. Lepidoptera Rhopalocera. Fam. Danaidae. Subfam. Danaidinae & Tellervinae. Gen. Ins., Brussels fasc. **193** 1931 215 pp. 6 pls.

1292.—Hungerford, H. B. A new *Velia* from Trinidad (Hemiptera, Velidae). Ann. Mag. Nat. Hist., London (10) **7** 1931 pp. 172-175, 1 fig.

1293.—Husain, M. A. A preliminary note on the white-fly of cotton in the Punjab. Agric. J. India, Calcutta **25** (1930) 1931 pp. 508-526. [Hem.]

1294.—Hustache, A. Six nouveaux Coléoptères (Curculionidae, Zygopini) de l'Amérique méridionale. Ann. Mag. Nat. Hist., London (10) **8** 1931 pp. 522-528.

1295.—Hustache, A. A propos du genre *Oxyonyx* Faust (Col. Curculionidae) et description d'une nouvelle espèce française. Bull. Soc. ent. Fr., Paris **1931** pp. 246-252.

1296.—Hustache, A. Deux nouveaux Curculionides du Maroc. Bull. Soc. Sci. nat. Maroc, Rabat **11** 1931 pp. 24-25. [Col.]

1297.—Hustache, A. Deux Zygopini nouveaux de l'Amérique méridionale dans les collections du Muséum de Prague. Sbornik ent. odd. Nár. Mus. Praha **9** 1931 pp. 9-10. [Col.]

1298.—Hustache, A. Curculionides nouveaux de l'Afrique équatoriale (1^{re} partie). Sbornik ent. odd. Nár. Mus. Praha **9** 1931 pp. 11-83. [Col.]

1299.—Hutchinson, G. E. On the occurrence of *Trichocorixa* Kirkaldy (Corixidae, Hemiptera-Heteroptera) in salt water and its zoo-geographical significance. Amer. Nat., New York **65** 1931 pp. 573-574.

1300.—Huxley, J. S. Relative growth of mandibles in stag-beetles (Lucanidae). J. Linn. Soc. London Zool. **37** 1931 pp. 675-703, 9 figs. [Col.]

1301.—Ilse, D. Ueber den Farbensinn der Tagfalter. Z. vergl. Physiol., Berlin **8** 1928 pp. 658-692, 14 figs. [Lep.]

1302.—Imms, A. D. Social behaviour in insects. London, Methuen & Co. Ltd. 1931 ix + 117 pp. 20 figs.

1303.—Imms, A. D. Recent advances in entomology. London, J. & A. Churchill 1931 viii + 374 pp. 84 figs.

1304.—Imms, A. D. Recent research on the wing venation of insects. Ent. Mon. Mag., London **67** 1931 pp. 145-148, 2 figs.

Ingham, C. H. see Martin & Ingham.

1305.—Ingram, A. & Macfie, J. W. S. Diptera of Patagonia and South Chile based mainly on material in the British Museum (Natural History). Part II Fasc. 1—Ceratopogonidae. London, Br. Mus. (Nat. Hist.) 1931 pp. 155-232, 21 figs.

1306.—Ingram, A. & Macfie, J. W. S. New Zealand Ceratopogonidae. Ann. Trop. Med. Parasit., Liverpool **25** 1931 pp. 195-209, 4 figs. [Dipt.]

1307.—Inone, Y. & Suzuki, B. The selective hydrogenation of unsaturated acids and their constitution. Part ii. The isolinolic acid of silkworm pupa. Proc. Imp. Acad., Tokyo **7** 1931 pp. 15-18. [Lep.]

1308.—Invrea, F. Abitudini e comportamenti dei Crisidi italiani. Boll. Soc. ent. ital., Genoa **63** 1931 pp. 54-58. [Hym.]

1309.—Ionesco, M. A. Contributions à l'étude de l'organisation et de l'écologie des Protoures. Bull. Acad. Roumanie, Bucarest **13** 1930 pp. 222-227, 2 figs.

1310.—Ionescu, M. A. Contributiuni la studiul faunei scoartei de prun (1^a nota). [With French summary.] Bull. Soc. stud. Nat. Bucuresti **1** 1930 reprint 9 pp. 1 pl.

1311.—Ishida, M. Fauna of the Thysanoptera in Japan. Parts I, II, Insecta matsum., Sapporo 1931 **5** pp. 149-154; **6** pp. 32-42, 5 figs.

1312.—Ishii, T. Notes on the phytophagous habit of some Chalcidoids, with description of new species. Kontyû, Tokyo 5 1931 pp. 132-138, 5 figs. [Hym.]

1313.—Issel, R. Oasi di "optimum" relativo e insetti visitatori dei *Cirsium* nel territorio di Bolzano. Atti Acc. sci. ven.-trent.-istr., Padua (3) 20 1929 pp. 93-101.

1314.—Issiki, S. Two new species of scorpion-flies (Insecta, Order Mecoptera). Ann. Mag. Nat. Hist., London (7) 7 1931 pp. 219-222, 2 figs.

1315.—Issiki, S. T. On the morphology and systematics of Micropterygidae (Lepidoptera: Homoneura) of Japan and Formosa, with some considerations on the Australian, European and North American forms. Proc. Zool. Soc. London 1931 pp. 999-1039, 39 figs.

1316.—Iwata, M. An entomological survey of the Upper-Kamogawa River, with special reference to Trichopterous larvae and pupae. [In Japanese with English summary.] Bull. Biogeogr. Soc. Japan, Tokyo 2 1930 pp. 1-20, 5 pls.

1317.—Jackson, C. H. N. An experiment on the feeding habits of *Glossina swynnertoni* (Dipt.). Bull. Ent. Res., London 22 1931 pp. 175-181.

1318.—Jacobs, W. Bemerkungen über einige deutsche Staphyliniden, Coleopt. Centralbl., Berlin 5 1931 pp. 146-148.

1319.—Jacobs, W. Ueber das verlängerte sechste Ventralsegment bei männlichen Atheten. Coleopt. Centralbl., Berlin 5 1931 p. 148.

1320.—Jacobs, W. Käfer auf dem Gebiet von Goslar a. H. Beiträge zu einer künftigen Käferfauna des Harzgebirges. Ent. Anz., Vienna 11 1931 pp. 157-160, 177-180, 193-196, 239-242, 257-260, 279-282, 313-316, 354-357, 417-420, 439-442, 455-458, 472-475. [Col.]

1321.—Jaczewski, T. Notes on Corixidae. VIII-XI. Ann. Mus. zool. polon., Warsaw 9 1931 pp. 147-154, 1 pl. [Hem.]

1322.—Jaczewski, T. Studies on Mexican Corixidae. Ann. Mus. zool. polon., Warsaw 9 1931 pp. 187-230, 5 pls. [Hem.]

1323.—Jaczewski, T. Die Corixidae (Heteroptera) des zoologischen Staatsinstituts und zoologischen Museums in Hamburg. Mitt. zool. Mus. Hamburg 44 1931 pp. 140-148, 10 figs.

1324.—Jaczewski, T. The male of *Mesoveloidea williamsi* Hungerford (Hemiptera: Heteroptera). Proc. Ent. Soc. Washington 33 1931 pp. 64-66, 2 figs.

1325.—Janda, V. Notes on the present status of knowledge on the influence of hormone endocrine glands on the flight of insects and Crustacea. [In Czech.] Acta Soc. ent. Čech., Prague 27 1930 pp. 31-35.

1326.—Janda, V. Ueber den Einfluss der Schilddrüsenfütterung auf das Wachstum, Metamorphose und Artcharaktere von *Anthrenus museorum* und *Dixippus morosus*. [In Czech with German summary.] Acta Soc. ent. Čech., Prague 27 1930 pp. 36-45. [Col., Orth.]

1327.—Janda, V. Ueber die Phototaxis der Larven und Imagines von *Anthrenus museorum* L. Zool. Anz., Leipzig 96 1931 pp. 77-84. [Col.]

Janes, M. J. see Knowlton & Janes.

1328.—Janisch, E. Ueber die Grundbegriffe bei der Kausalanalyse der Insektenvermehrung. Anz. Schädlingssk., Berlin 7 1931 pp. 61-67, 2 figs.

1329.—Janisch, E. Experimentelle Untersuchungen über die Wirkung der Umweltfaktoren auf Insekten. ii. Ueber die Mortalität und die Variationsbreite tropischer Insekten in Ceylon mit allgemeinen Bemerkungen über die Umweltabhängigkeit und das biologische Optimum. Z. Morph. Oekol. Tiere, Berlin 22 1931 pp. 287-348, 11 figs.

1330.—Janse, A. J. T. The classification of insects. S. Afr. Biol. Soc., Pretoria Pamphl. no. 3 1931 pp. 14-18.

1331.—Janse, A. J. T. A contribution towards the study of the genera of the Epipaschiinae (Family Pyralidae) Trans. Ent. Soc. London 79 1931 pp. 439-492, 11 pls. 3 figs. [Lep.]

1332.—Jansson, A. Forteckning over Olands, Gotlands, Färöns och Gotska Sandöns Hemiptera Heteroptera. Ent. Tidskr., Stockholm 51 1930 pp. 36-47.

- 1333.—Jansson, A. Coleopterologiska bidrag, 21–22. Ent. Tidskr., Stockholm 51 1930 pp. 160–172.
- 1334.—Jarvis, E. A little-known Queensland digger-wasp. Qd. Agric. J., Brisbane 35 1931 pp. 6–9, 2 pls. [Hym].
- 1335.—Jazykov, A. A. Parasites and hyperparasites of the egg-pods of injurious locusts (Acridodea) of Turkestan. Bull. Ent. Res., London 22 1931 pp. 385–391. [Orth. etc.]
- 1336.—Jean-Jean, —. Communication au sujet de passages de libellules. Bull. Soc. Sci. nat. Nîmes 46 1928–29 pp. 119–123. [Odon.]
- 1337.—Jeannel, R. Campagne spéologique de C. Bolivar et R. Jeannel dans l'Amérique du Nord (1928). 9. Insectes Coléoptères et révision des Trechinae de l'Amérique du Nord. Arch. Zool. exp. gén., Paris 71 1931 pp. 403–499, 109 figs.
- 1338.—Jeannel, R. Origine et évolution de la faune cavernicole du Bihar et des Carpathes du Banat. Arch. zool. ital., Torino 16 1931 pp. 47–60, 5 maps. [Col.]
- 1339.—Jeannel, R. Trechinae et Bathysciinae nouveaux de l'Italie. Boll. Soc. ent. ital., Genoa 63 1931 pp. 49–54, 8 figs. [Col.]
- 1340.—Jeannel, R. Bathysciinae nouveaux recueillis par P. Rémy dans les grottes de Novi-Pazar. Bull. Soc. zool. Fr., Paris 56 1931 pp. 258–266, 13 figs. [Col.]
- 1341.—Jeannel, R. Coléoptères nouveaux de la troisième campagne organisée par l'institut de spéologie dans les Carpathes méridionales. Bull. Soc. Sti. Cluj 5 (2) 1931 pp. 134–141, 24 figs.
- 1342.—Jedlička, A. Neue palaeark. Carabiden. Acta Soc. ent. Čech., Prague 27 1930 pp. 21–24. [Col.]
- 1343.—Jedlička, A. Zur geographischen Verbreitung einiger Carabiden. Ent. NachrBl., Troppau 5 1931 pp. 7–8. [Col.]
- 1344.—Jeffrey, E. C. Cytological evidence as to the status of *Drosophila melanogaster*. Amer. Nat., New York 65 1931 pp. 19–30, 8 figs. [Dipt.]
- 1345.—Jensen-Haarup, A. C. New or little-known Hemiptera Heteroptera I. Deuts. ent. Z., Berlin 1930 1931 pp. 215–222, 1 pl.
- 1346.—Jensen-Haarup, A. C. Hemipterological notes and descriptions VI. Ent. Medd., Copenhagen 17 1931 pp. 319–336.
- Jensen-Haarup, A. C. & Lindberg, H. see Sjöstedt et al.
- 1347.—Joannis, J. de. Les règles internationales de nomenclature zoologique. Amat. Papillons, Paris 5 1931 pp. 193–201, 209–217, 229–236, 245–252.
- 1348.—Joannis, J. de. A propos de Psychides. Lambillionea, Brussels 31 1931 pp. 145–146. [Lep.]
- 1349.—Jobling, B. A new species of the genus *Raymondia* Frauenfeld (Diptera Pupipara, Streblidae) with a note on *Raymondia quadriceps* Jobling and *R. bedfordi* Ferris. Parasitology, Cambridge 23 1931 pp. 79–83, 2 figs.
- 1350.—Jodłowski, J. Ueber den histologischen Bau der Spinndrüsen bei Ameisenlarven. Bull. int. Acad. Cracovie 1930 1930 B pp. 745–761, 1 pl. [Hym.]
- 1351.—Joffre, P. Notes sur *C. problematicus*. Divergences morphologiques des races *occitanus* et *planiusculus* de la Montagne Noire (zone de cohabitation). Misc. ent., Castanet-Tolosan 33 1931 pp. 11–12. [Col.]
- 1352.—Joffre, P. Un Tréchide cavernicole nouveau. Misc. ent., Castanet-Tolosan 33 1931 p. 13. [Col.]
- 1353.—Johansen, H. Lepidopterologische Notizen aus Tomsk. [In Russian with German summary.] Ber. Tomsker Staats-Univ. 75 1925 pp. 291–298.
- 1354.—John, O. Thysanoptera der Umgebung des Tiberkul-Sees im Minussinsk-Bezirk. [In Russian.] Jahrb. Martj. Staatsmus. Minussinsk 6 (1928) 1929 pp. 60–63.
- 1355.—John, O. Thysanoptera from the Novgorod Government. [In Russian.] Rev. russe Ent., Leningrad 24 1930 pp. 218–219.
- 1356.—John, O. Material zur Insektenfauna Lettlands, IV–V. Folia zool. hydrobiol., Riga 3 1931 pp. 271–273. [Lep.]
- 1357.—Johnson, C. W. Two new species of fungus gnats of the genus *Apemon*. Psyche, Boston 38 1931 pp. 22–24, 2 figs. [Dipt.]

1358.—Johnson, C. W. An interesting copy of Wiedemann's *Diptera exotica*. Psyche, Boston **38** 1931 pp. 35-36.

1359.—Johnson, H. H. Centrioles and other cytoplasmic components of the male germ cells of the Gryllidae. Z. wiss. Zool., Leipzig **140** 1931 pp. 115-166, 6 pls. 4 figs. [Orth.]

1360.—Johnson, W. F. Hymenoptera at Greencastle, Co. Down, in August, 1930. Ent. Mon. Mag., London **67** 1931 pp. 137-141.

1361.—Johnson, W. F. Notes on Irish Lepidoptera, 1923-29. Entomologist, London **64** 1931 pp. 53-59.

1362.—Johnston, H. B. & Darling, R. C. M. On the occurrence in the Sudan of *Locusta migratorioides*, Reh. & Frm., and its associated phases. Bull. Ent. Res., London **22** 1931 pp. 399-416. [Orth.]

1363.—Jollos, V. Gerichtete Mutationen und ihre Bedeutung für das Evolutionsproblem. Biol. Zbl., Leipzig **51** 1931 pp. 137-140. [Dipt.]

1364.—Joman, A. De gallen van Nederland. Aanvullende Lijst. Levende Natuur, Amsterdam **35** 1931 pp. 327-331, 360-363, 395-398, 7 figs.

1365.—Jones, H. P. On some specimens of *Elatér sanguineus* L. and allied specimens in the Nottingham Natural History Museum collection of Coleoptera. Ent. Mon. Mag., London **67** 1931 pp. 106-108.

1366.—Jordan, K. Three new species of *Neopsylla* (Siphonaptera) from the Oriental Region. Novit. zool., Tring **36** 1931 pp. 220-224, 5 figs.

1367.—Jordan, K. Siphonaptera collected by Mr. F. J. Cox in France. Novit. zool., Tring **36** 1931 pp. 225-229, 4 figs.

1368.—Jordan, K. Records of fleas from the Austrian Tirol and the Dolomites. Novit. zool., Tring **36** 1931 pp. 230-232, 1 fig. [Siphonapt.]

1369.—Jordan, K. On some fleas collected by Monsieur Heim de Balzac in Western Algeria. Novit. zool., Tring **36** 1931 pp. 233-234, 4 figs. [Siphonapt.]

1370.—Jordan, K. On *Cypa decolor* and some allied species (Lepid. Sphingidae). Novit. zool., Tring **36** 1931 pp. 235-242, 24 figs.

1371.—Jordan, K. On the geographical variation of the pine hawk-moth, *Hyloicus pinastri*. Novit. zool., Tring **36** 1931 pp. 243-249, 12 figs. [Lep.]

1372.—Jordan, K. Two new Zygaenidae (Lepid.). Novit. zool., Tring **36** 1931 pp. 277-278, 4 figs.

1373.—Jordan, K. Anthribidae versus Platystomidae. Novit. zool., Tring **36** 1931 pp. 281-287. [Col.]

1374.—Jordan, K. Anthribidae collected by F. C. Drescher on the island of Java. Novit. zool., Tring **36** 1931 pp. 288-302, 4 figs. [Col.]

1375.—Jordan, K. Some Anthribidae from tropical Africa. Novit. zool., Tring **36** 1931 pp. 305-310, 1 fig. [Col.]

1376.—Jordan, K. Further records and descriptions of fleas from Ecuador. Novit. zool., Tring **37** 1931 pp. 135-143, 12 figs. [Siphonapt.]

1377.—Jordan, K. Three new Old World Fleas. Novit. zool., Tring **37** 1931 pp. 144-147, 6 figs. [Siphonapt.]

1378.—Jordan, K. Flöhe aus Venezuela. Z. Parasitenk., Berlin **3** 1931 pp. 264-266, 1 fig. [Siphonapt.]

1379.—Jourdy, —. Les épaves du pays du diamant. Bull. Soc. Sci. nat. Ouest Fr., Nantes (4) **10** 1931 pp. 77-206. [Insects pp. 149-150, 166-168.]

1380.—Jucci, C. Il pigmento del sangue e della secrezione serica nei bachi da seta. Arch. zool., Torino **15** 1931 pp. 313-320. [Lep.]

1381.—Jucci, C. Nuove esperienze sulla eredità materna del bivoltinismo nei bachi da seta. Boll. Soc. Nat. Napoli **42** 1931 pp. 1-24, 1 pl. [Lep.]

1382.—Judenko, E. Data concerning the fauna and biology of plant lice (Aphididae) from the surroundings of Pulawy, 2. [In Polish with English summary and descriptions.] Polsk. Pismo ent., Lemberg **10** 1931 pp. 102-118, 2 pls. [Hem.]

1383.—Junk, W. & Schenkling, S. Coleopterorum Catalogus, Berlin. See Csiki, Dalla Torre & Voss, Hetschko, Korschefsky, Ohaus, Schenkling, Schenkling & Marshall.

1384.—Jurkansky, V. Ueber die Borkenkäfer der Insel Solowjetz. Solovki, Solow. Ges. Heimatkunde biol. Sta. 1928. [Col.] [Not seen.]

1385.—Kaestner, H. Die Wirkung von Temperaturreizen auf die Pigmentierung und ihre Nachwirkung in den folgenden Generationen bei *Habrobracon juglandis* Ash. Arch. EntwMech. Org., Berlin 124 1931 pp. 1-16, 13 figs. [Hym.]

1386.—Kalandadze, L. Zur Fauna der Stechmücken in Georgien U.S.S.R. Arch. Schiffs- u. Tropenhyg., Leipzig 35 1931 pp. 110-113. [Dipt.]

1387.—Kamykov, E. Materials relating to the phenology of *Anopheles maculipennis* Mg. [In Russian with English summary.] Bull. Inst. Contr. Pests Diseases, Leningrad 1 1931 pp. 101-119, 7 figs. [Dipt.]

1388.—Kanda, S. A list of Coccidae in Yokohama. [In Japanese.] Insect Wld., Gifu 34 1930 pp. 413-417. [Hem.]

1389.—Kano, T. Formosan Pausidae, with description of two new species. Kontyû, Tokyo 4 1930 pp. 90-98. [Col.] [Not seen.]

1390.—Kano, T. A list of the Brentidae from the Japanese Empire, with description of a new species. Kontyû, Tokyo 4 1930 pp. 151-154. [Col.] [Not seen.]

1391.—Kano, T. Coleopterous insects from Bonin Islands, with some considerations of its insect fauna. [In Japanese.] Bull. Biogeogr. Soc. Tokyo 1 1930 pp. 239-247, 1 pl.

1392.—Kano, T. Coleopteran fauna of Kôtôsho. Bull. Biogeogr. Soc. Japan, Tokyo 2 1931 pp. 168-192, 2 pls.

1393.—Kano, T. Notes on Pachyrhynchides from Kôtôsho and their zoogeographical significance. Bull. Biogeogr. Soc. Japan, Tokyo 2 1931 pp. 193-208, 1 map. [Col.]

1394.—Kano, T. Notes on the zoogeographical correlation between Kôtôsho and adjacent territories under the distribution of butterflies. Bull. Biogeogr. Soc. Japan, Tokyo 2 1931 pp. 221-236, 2 figs. [Lep.]

1395.—Kano, T. O. Some new or unrecorded Cetoniid-beetles from Formosa. Annot. zool. jap., Tokyo 13 1931 pp. 127-134, 5 figs. [Col.]

1396.—Kano, T. Formosan "alpine" butterflies. (3) and (4). [In Japanese.] Zephyrus, Fukuoka 3 1931 pp. 1-4, 91-94, 2 pls. [Lep.]

1397.—Kano, T. Butterflies in the neighbourhood of Urai, ii & iii. [In Japanese.] Zephyrus, Fukuoka 3 1931 pp. 41-42, 124-128. [Lep.]

1398.—Kantardjiewa-Minkova, S. Beitrag zur Kenntnis der Arten der Familie Cleridae (Coleopt.) in Bulgarien. [In Bulgarian with German summary.] Mitt. bulgar. ent. Ges. Sofia 6 1931 pp. 153-156.

1399.—Karandikar, K. R. The early stages and bionomics of *Trichocera maculipennis* (Meig.). (Diptera, Tipulidae.) Trans. Ent. Soc. London 79 1931 pp. 249-260 4 pls.

1400.—Karawajew, W. Uebersicht der Ameisenfauna von Schweden. Trav. Mus. zool. Kiev no. 10 1931 pp. 207-220. [Hym.]

1401.—Karawajew, W. Myrmekologische Fragmente, III. Zool. Anz., Leipzig 92 1931 pp. 309-317, 4 figs. [Hym.]

1402.—Karawajew, W. Beitrag zur Ameisenfauna der Umgebung des Baikalsees. Zool. Anz., Leipzig 93 1931 pp. 28-32. [Hym.]

1403.—Karawajew, W. Beitrag zur Ameisenfauna Jakutiens. Zool. Anz., Leipzig 94 1931 pp. 104-117, 2 figs. [Hym.]

1404.—Karawajew, W. Ameisen aus Englisch-Ostafrika. Zool. Anz., Leipzig 95 1931 pp. 42-51, 7 figs. [Hym.]

1405.—Karl, O. Thalassobionte und thalassophile Diptera Brachycera. Tierwelt der Nord- und Ostsee, Leipzig 19 1930 no. 11 e₂ pp. 33-84, 93 figs.

1406.—Karl, O. Fliegen von der Insel Amrum. Ein Beitrag zur Fliegenfauna der nordfriesischen Inseln (Dipt.). Deuts. ent. Z., Berlin 1930 1931 pp. 193-206.

1407.—Karny, H. H. Ueber die Gryllacriden des Senckenbergischen Museums in Frankfurt a. M. Abh. senckenb. naturf. Ges., Frankfurt a. M. 42 1931 pp. 383-434, 2 pls. 17 figs. [Orth.]

1408.—Karny, H. H. Ueber das Flügelgeäder der Gryllacriden. Arch. zool., Torino 15 1931 pp. 193-244, 30 figs. [Orth.]

1409.—Karny, H. H. On the cricket-locusts (Gryllacrids) of China. Lingnan Sci. J., Canton 7 (1929) [1931] pp. 721-754, 1 pl. 19 figs.; 10 1931 pp. 461-466. [Orth.]

1410.—Karny, H. H. Revision der von mir in holländischen Sammlungen gesehenen Gryllacriden. Tijdschr. Ent., Amsterdam 74 1931 pp. 1-156, 1 pl. 50 figs. [Orth.]

1411.—Karny, H. H. On the geographical distribution of the Indo-African and Mediterranean Gryllacrids. Trans. Roy. Soc. S. Afr., Cape Town 19 1931 pp. 99-105, 4 maps. (Orth.)

1412.—Karny, H. H. Zur Systematik der Orthopteroiden Insekten. Zweiter Teil. Treubia, Buitenzorg 12 1930 pp. 431-461. [Psocopt.]

1413.—Karny, H. H. Tettigoniidae celebicae. Treubia, Buitenzorg 12 suppl. 1931 pp. 4-140, 70 figs. [Orth.]

1414.—Karny, H. H. Gryllacridae celebicae. Treubia, Buitenzorg 12 suppl. 1931 pp. 141-184, 18 figs. [Orth.]

1415.—Karpiński, J. J. Borkenkäfer des Białowieża-Urwaldes. [In Polish with German summary.] Polsk. Pismo ent., Lemberg 10 1931 pp. 18-39, 1 pl. 1 fig. [Col.]

1416.—Katagai, T. Experimental observations on the life-history and blood-sucking habits of *Rhodnius prolixus* from South America. [In Japanese with English summary.] Contr. Dep. Hyg. Govt. Res. Inst. Formosa, Taihoku no. 105 1930 24 pp. 2 pls. [Hem.]

1417.—Katô, M. Notes on the distribution of Cicadidae in Japanese Empire. [In Japanese with English descriptions.] Bull. Biogeogr. Soc. Japan, Tokyo 2 1930 pp. 36-76, 3 figs. [Hem.]

1418.—Katô, M. Dragonflies and Homopterous insects from Botel Tobago. [In Japanese with English descriptions.] Bull. Biogeogr. Soc. Japan, Tokyo 2 1931 pp. 157-167, 3 figs. [Odon., Hem.]

1419.—Katô, M. On Japanese Ledridae. [In Japanese with English descriptions.] Dobuts. Zasshi, Tokyo 43 1931 pp. 431-440, 10 figs. [Hem.]

Katsuki, K. see Goldschmidt & Katsuki.

1419a.—Katsumata, K. The period of each larval instar of *Chilo simplex*. [In Japanese.] J. Plant Prot., Tokyo 18 1931 pp. 236-242. [Lep.]

1420.—Kaufmann, B. P. Chromosome structure in *Drosophila*. Anat. Rec., Philadelphia 51 1931 suppl. pp. 123-124. [Dipt.]

Kaufmann, O. see Bremer & Kaufmann.

1421.—Kawaguchi, E. Ueber den Dimorphismus der Epithelzellen im Mitteldarm der Seidenraupe (*Bombyx mori* L.). J. Dept. Agric. Kyushu Imp. Univ., Fukuoka 3 1931 pp. 47-64, 1 pl. 12 figs. [Lep.]

1422.—Kaye, W. J. *Heliconius charithonia* and its mimics in Colombia, Venezuela, Costa Rica, Cuba and Haiti. Proc. Ent. Soc. London 5 1931 pp. 89-90. [Lep.]

1423.—Kaye, W. J. Additions and corrections to the author's "Butterflies of Jamaica (1926)." Trans. Ent. Soc. London 79 1931 pp. 531-537, 1 pl. [Lep.]

1424.—Kearns, H. G. H. The larval and pupal anatomy of *Stenomalus micanus* Ol. (Pteromalidae), a Chalcid endoparasite of the gout-fly of barley (*Chlorops taeniopus* Meig.), with some details of the life-history of the summer generation. Parasitology, Cambridge 23 1931 pp. 380-395, 5 figs. [Hym., Dipt.]

1425.—Keilin, D. On the life-history of *Neottiophilum praeustum* (Meigen 1826) (Diptera-Acalypterae) parasitic on birds, with some general considerations on the problem of myiasis in plants, animals and man. Parasitology, Cambridge 16 1924 pp. 113-126, 1 pl. 3 figs.

1426.—Keilin, D. On the life-history of *Anthomyia procellaris* Rond. and *A. pluvialis* L. inhabiting the nests of birds. Parasitology, Cambridge 16 1924 pp. 150-159, 12 figs. [Dipt.]

1427.—Kellogg, C. R. Studies on the Chinese honey-bee (*Apis indica* F., var. *peroni*). Lingnan Sci. J., Canton 7 (1929) [1931] pp. 613-623. [Hym.]

1428.—Kemper, H. Beitrag zur Fauna des Grossen und Kleinen Heiligen Meeres und des Erdbruchs bei Hopsten. Abh. Westf. Prov. Mus. Naturk., Münster 1 1930 pp. 125-135, 1 fig. [Insects pp. 132-134.]

- 1429.—Kemper, H. Beiträge zur Biologie der Bettwanze (*Cimex lectularius* L.). II. Ueber der Häutung. Z. Morph. Oekol. Tiere, Berlin 22 1931 pp. 53-109, 9 figs. [Hem.]
- 1430.—Kennedy, C. H. Insects from the Miocene (Latah) of Washington. Odonata. Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 313-316, 2 figs. [Fossil.]
- 1431.—Kerkis, J. The growth of the gonads in *Drosophila melanogaster*. Genetics, Menasha 16 1931 pp. 212-224, 5 graphs. [Dipt.]
- 1432.—Kerkis, J. Vergleichende Studien über die Variabilität der Merkmale des Geschlechtsapparats und der äusseren Merkmale bei *Eurygaster integriceps* Put. Zool. Anz., Leipzig 93 1931 pp. 129-143, 12 figs. [Hem.]
- 1433.—Kettlewell, H. B. D. Notes on *Heliothis peltigera*, Schiff. Ent. Rec., London 43 1931 pp. 62-64. [Lep.]
- 1434.—Khodukin, N. I. & Sofiev, M. S. Revision of central Asiatic sandflies. [In Russian.] Meditz. Muis' Uzbekist. Turkmenist., Tashkent 5 (9-10) 1931 pp. 50-55, 3 figs. In German in Arch. Schiffs- u. Tropenhyg., Leipzig 35 1931 pp. 482-488, 3 figs. [Dipt.]
- 1435.—Kieseritzky, V. Silphidae (Coleoptera). [In Russian with German summary.] Abh. Pamir Exped. 1928, Leningrad 2 1930 pp. 59-63.
- 1436.—Killington, F. J. Notes on British Neuroptera. Entomologist, London 64 1931 pp. 73-76, 1 fig.
- 1437.—Killington, F. J. Synonymic notes on certain Neuroptera. Entomologist, London 64 1931 pp. 112-114.
- 1438.—Killington, F. J. *Osmylus fulvicephalus*, Scop. (Neuroptera): The fore coxae of the female, with remarks on a confusion of the sexes. Entomologist, London 64 1931 pp. 135-136, 2 figs.
- 1439.—Killington, F. J. Notes on the life-history of *Symphorobius fuscescens* Wall. (= *inconspicuus* McL.) (Neuroptera). Entomologist, London 64 1931 pp. 217-223, 1 fig.
- 1440.—Kincl, J. & Noskiewicz, J. Zur Kenntnis der beiden paläarktischen *Epicypta*-Arten (Dipt., Fungivoridae). Polsk. Pismo ent., Lemberg 10 1931 pp. 69-73, 1 pl.
- 1441.—King, R. L. Chromosomes of three species of Mantidae. J. Morph., Philadelphia 52 1931 pp. 525-534, 2 pls. [Orth.]
- King, R. L. see Beams & King.
- 1442.—King, W. V. The Philippine varieties of *Anopheles gigas* and *Anopheles lindesayi*. Philipp. J. Sci., Manila 46 1931 pp. 751-757, 2 pls. [Dipt.]
- 1443.—Kirby, jr., H. Trichomonad flagellates from Termites. II. *Eutrichomastix* and the subfamily Trichomonadinae. Univ. Calif. Pub. Zool., Berkeley 36 1931 pp. 171-262, 22 pls. 4 figs. [Isopt.]
- 1444.—[Kirichenko] Kiritschenko, A. N. Die in Nordwestpersien und im Kaukasus von D. A. Tarnogradsky gesammelten Hemiptera-Heteroptera aquatica (*Hydrobiotica* et *Sandaliorhyncha*). [In Russian with German summary.] Trav. Sta. biol. Caucase Nord, Vladicaucase 3 1930 pp. 45-62, 1 map.
- 1445.—[Kirichenko] Kiritschenko, A. N. Hemiptera-Heteroptera of the Third Mount Everest Expedition, 1924. —I. Ann. Mag. Nat. Hist., London (10) 7 1931 pp. 362-385.
- 1446.—Kirichenko, A. Résultats scientifiques des expéditions entomologiques du Musée zoologique dans la région d'Oussouri. IV. Hemiptera cryptocerata. [In Russian with Latin descriptions.] Annu. Mus. zool. Acad. Leningrad 31 (1930) 1931 pp. 431-440, 10 figs.
- 1447.—[Kirichenko] Kiritschenko, A. N. Bemerkungen über einiger Gattungen der Astacopinae (Hemiptera, Myodochidae). N. Beitr. syst. Insektenk., Berlin 5 1931 p. 16.
- 1448.—[Kirichenko] Kiritschenko, A. Second contribution to the Coccid fauna of Ukraine and the Crimea. [In Russian.] Plant Prot., Leningrad 7 1931 pp. 307-321. [Hem.]
- 1449.—Kisselewa, E. F. Zur Ameisenfauna des Ussuri-Gebietes. [In Russian.] Ber. Tomsker Staats-Univ. 75 1925 pp. 73-75, 1 fig. [Hym.]
- 1450.—Kistiakowsky, O. Beiträge zur Fauna der Mallophagen von Ukraine. Bull. Cl. Sci. phys. math. Acad. Sci. Ukraine, Kiev 2 1926 pp. 133-139

- 1451.**—**Kitakami, S.** The Blepharoceridae of Japan. Mem. Coll. Sci. Kyoto (B) **6** 1931 pp. 53–108, 10 pls. 10 figs. [Dipt.]
- 1452.**—**Kitao, Z.** Untersuchungen über die Larve der Kiefernblattwespe, *Nesodiprion japonica* Marlatt. J. Coll. Agric. Imp. Univ. Tokyo **11** 1931 pp. 151–191, 78 figs. [Hym.]
- 1453.**—**Klaue, W.** Wissenwertes über importierte indische Saturniden-cocons. Ent. Z., Frankfurt a. M. **45** 1931 pp. 80–87, 1 fig. [Lep.]
- 1454.**—**Klaue, W.** Beitrag zur Frage der Legetaschenbildung bei *Parnassius mnemosyne* (*hassicus*). Ent. Z., Frankfurt a. M. **45** 1931 pp. 135–137. [Lep.]
- 1455.**—**Klaue, W.** Ueber den Einfluss hellen Lichtes auf das Schlüpfen von Tagfaltern. Ent. Z., Frankfurt a. M. **45** 1931 pp. 194–196. [Lep.]
- Klein, H. Z.** see Bodenheimer & Klein.
- 1456.**—**Kleine, R.** Catalogue of Indian Insects. Part 21—Lycidae. Calcutta, Govt. India Centr. Pubn. Branch 1931 iii + 52 pp. [Col.]
- 1457.**—**Kleine, R.** Mitteilungen über Brenthiden. Ent. Rdsch., Stuttgart **48** 1931 pp. 93–98, 110–111, 117–118, 7 figs. [Col.]
- 1458.**—**Kleine, R.** Die Biologie der Brenthidae. Eine Uebersicht über die bisherigen Forschungsergebnisse. Ent. Rdsch., Stuttgart **48** 1931 pp. 149–153, 164–167, 173–176, 189–194, 4 figs. [Col.]
- 1459.**—**Kleine, R.** Der Stridulationsapparat der Rhynchophoren. Untersuchungen über einige Gattungen der Ceutorrhynchini. Ent. Rdsch., Stuttgart **48** 1931 pp. 229–231, 248–250, 253–257, 6 figs. [Col.]
- 1460.**—**Kleine, R.** Bestimmungstabelle der Brenthidae. Ent. Z., Frankfurt a. M. **44** 1931 pp. 307–308, 366–368; **45** pp. 104–106, 162–163, 235–238. [Col.]
- 1461.**—**Kleine, R.** The Brenthidae and Lycidae of China. Lingnan Sci. J., Canton **7** (1929) [1931] pp. 491–496. [Col.]
- 1462.**—**Kleine, R.** Die Brenthiden der Philippinen-Inseln. Philipp. J. Sci., Manila **46** 1931 pp. 383–445, 16 figs. [Col.]
- 1463.**—**Kleine, R.** Eine neuer *Calodromus* von Sumatra. Tijdschr. Ent. Amsterdam **74** 1931 pp. 184–186, 1 fig. [Col.]
- 1464.**—**Kleine, R.** Bestimmungsschlüssel der Gattung *Lyropaeus* C. O. Wat. Treubia, Buitenzorg **12** 1930 pp. 383–388, 2 figs. [Col.]
- 1465.**—**Kleine, R.** Zur Kenntnis der Lycidenfauna Javas. Treubia, Buitenzorg **13** 1931 pp. 245–290, 26 figs. [Col.]
- 1466.**—**Kleine, R.** Zwei neue Indomalayische Lycidae. Treubia, Buitenzorg **13** 1931 pp. 291–292, 2 figs. [Col.]
- 1467.**—**Kligler, I. J. & Mer, G.** Studies on malaria: VI. Long-range dispersion of *Anopheles* during the pre-hibernating period. C.R. 2^e Congr. internat. Paludisme Alger 1930 **1** 1931 pp. 242–255, 4 figs. 2 charts. [Dipt.]
- 1468.**—**Klingstedt, H.** Neuropterologische aus Finnland. I–III. Mem. Soc. Fauna fenn., Helsingfors **5** (1928–29) 1930 pp. 81–91, 105–106, 9 figs.
- 1469.**—**Klingstedt, H.** Digametrie beim Weichen der Trichoptere *Limnophilus decipiens* Kol. nebst Erörterungen zur Theorie der Geschlechtsvererbung. Acta zool. fenn., Helsingfors **10** 1931 pp. 1–69, 20 figs.
- 1470.**—**Klots, A. B.** Notes on Lepidoptera collected in a Connecticut-Rhode Island woodland. Bull. Brooklyn Ent. Soc. **26** 1931 pp. 57–70, 2 figs.
- 1471.**—**Klots, A. B.** The generic synonymy of the North American Pieridae (Lepidoptera). Ent. News, Philadelphia **42** 1931 pp. 253–256. [Lep.]
- 1472.**—**Klots, A. B.** New records of Microlepidoptera from New York. J. New York Ent. Soc. **39** 1931 pp. 291–293.
- 1473.**—**Klyver, F. D.** Notes on the Chermidae (Hemiptera: Homoptera). Part II. Canad. Ent., Orillia **63** 1931 pp. 111–115, 3 figs.
- 1474.**—**Klyver, F. D.** Chermidae from Utah, Nevada and Arizona, including three new species (Homoptera). Pan-Pacific Ent., San Francisco **7** 1931 pp. 131–143, 157–158, 2 figs.
- 1475.**—**Klyver, F. D.** Preliminary note on paedogenesis in a Cecidomyiid. Pan-Pacific Ent., San Francisco **8** 1931 pp. 9–10. [Dipt.]

1476.—Klyver, F. D. New records and two new species of Chermidae from British Columbia, and Washington, with biological notes. *Pan-Pacific Ent.*, San Francisco 8 1931 pp. 11-17, 1 fig. [Hem.]

1477.—Knechtel, W. K. Zur Kenntnis der Coccidenfauna Rumaniens. 1^{er} Congr. nat. Naturalistes Roumanie, Cluj 1928 1930 pp. 230-237. [Hem.]

1478.—Knight, H. H. *Dacota hesperia* Uhler referred to *Atractotomus*, also descriptions of three new species (Hemiptera, Miridae). *Bull. Brooklyn Ent. Soc.* 26 1931 pp. 36-38.

1479.—Knight, H. H. Three new species of *Cyrtorhinus* from North America (Hemiptera, Miridae). *Bull. Brooklyn Ent. Soc.* 26 1931 pp. 171-173.

1480.—Knirsch, E. Eine neue blinde Carabidenart aus Mazedonien. *Sbornik ent. odd. Nár. Mus. Praze* 8 1930 pp. 51-52, 3 figs. [Col.]

1481.—Knoch, V. Verdunkelte Formen von *Aglia tau* L. auch in Lübeck. *Int. ent. Z.*, Guben 25 1931 pp. 18-19. [Lep.]

1482.—Knowlton, G. F. Notes on Utah Diptera. *Canad. Ent.*, Orillia 63 1931 pp. 152-157.

1483.—Knowlton, G. F. Notes on Utah Heteroptera and Homoptera. *Ent. News*, Philadelphia 42 1931 pp. 40-43, 68-72.

1484.—Knowlton, G. F. Notes on Utah Coleoptera (contd.). *Florida Ent.*, Gainesville 15 1931 p. 10.

1485.—Knowlton, G. F. & Janes, M. J. Studies on the biology of *Paratrioza cockerelli* (Sulc). *Ann. Ent. Soc. Amer.*, Columbus 24 1931 pp. 283-290, 1 pl. [Hem.]

Knudsen, S. see Hoffmeyer & Knudsen.

1486.—Kocain, V. Thyroxin und Atmung. *Zool. Jahrb.*, Jena Allg. *Zool.* 50 1931 pp. 47-50.

1487.—Koch, A. Die Symbiose von *Oryzaephilus surinamensis* L. (Cucujidae, Coleoptera). *Z. Morph. Oekol. Tiere*, Berlin 23 1931 pp. 389-424, 15 figs.

1488.—Koch, C. Risultati scientifici delle spedizioni entomologiche di S.A. S. il Principe Alessandro Della Torre e

Tasso nell' Africa settentrionale e in Sicilia. II. *Anthicus* Payk. *Mem. Soc. ent. ital.*, Genoa 10 1931 pp. 66-79, 10 figs. [Col.]

1489.—Kodama, G. Studies on *Aleurocanthus spiniferus* Quaint. [In Japanese.] Prefectural Office, Kagoshima-Ken, Kyushu 1931 38 pp. 6 pls. [Hem.]

1490.—Köhler, P. El género *Hylesia* en la Argentina. *Rev. Soc. ent. argent.*, Buenos Aires 3 1931 pp. 305-308, 8 figs. [Lep.]

1491.—Köhler, P. Los Psychidae argentinos (Lep. Het.). *Rev. Soc. ent. argent.*, Buenos Aires 3 1931 pp. 347-352, 8 figs.

1492.—Koidsumi, K. Quantitative studies on the lethal action of X-rays upon certain insects. *J. Soc. Trop. Agric.*, Taihoku 2 1930 pp. 243-263, 5 figs.

1493.—Koidsumi, K. Experimental studies on the influence of low temperatures upon the development of fruit-flies. First Report on the fatal action of low temperatures upon the pupae and larvae of melon-fly (*Chaetodacus cucurbitae* Coquillett). [In Japanese with English summary.] *Bull. Dept. Agric. Govt. Res. Inst. Taihoku* no. 85 1931 reprint 68 pp. [Dipt.]

1494.—Koidsumi, K. On the toxic action of sea-water on a fresh-water insect larva (*Chironomus viridicollis* Van der Wulp). *J. Soc. Trop. Agric.*, Taihoku 3 1931 pp. 248-263. [Dipt.]

1495.—Kojima, T. Further investigation on the immature stages of some Japanese Cerambycid beetles, with notes on their habits. *J. Coll. Agric. Imp. Univ. Tokyo* 11 1931 pp. 263-308, 1 pl. 14 figs. [Col.]

1496.—Kolbe, W. Beiträge zur schlesischen Käferfauna. *Z. Entom.*, Breslau 17 1931 pp. 8-17. [Col.]

1497.—Kolbe, H. Ueber thermophile Relikte aus der Tertiärzeit und der Postglazialzeit. *Zool. Anz.*, Leipzig 95 1931 pp. 113-136.

1498.—Kolossoff, I. Synonymische und systematische Bemerkungen über Coleopteren palaearcticis [sic]. *Ent. Bl.*, Berlin 27 1931 pp. 116-118.

1499.—Kolossoff, J. Was ist *Cerceris fodiens* Eversmann? (Hym.). *Stettin. ent. Z.* 92 1931 pp. 94-96.

1500.—Konakov, N. & Onissimova, Z. Ein einfaches Biocönometer zur Auszählung der Insektenfauna der Grasdecke. Z. angew. Ent., Berlin 18 1931 pp. 189–191.

1501.—Kondo, T. & Miyahara, M. On *Peronea croceopepla* Meyr. distributed in Korea and Manchuria. [In Japanese.] J. Plant. Prot., Tokyo 18 1931 pp. 227–231, 1 pl. [Lep.]

1502.—Kôno, H. Die *Trypoxylus*-Arten aus Japan und Formosa (Col. Scarabaeidae). Insecta matsum., Sapporo 5 1931 pp. 159–160, 1 pl.

1503.—Kôno, H. Die *Notoxus*-Arten aus Japan (Col. Anthicidae). Insecta matsum., Sapporo 6 1931 pp. 1–2.

1504.—Kôno, H. Die Heteroceriden aus Japan (Col.). Insecta matsum., Sapporo 6 1931 pp. 3–4.

1505.—Kopstein, F. Rats and ratfleas of Java. A guide for identifying the species concerned in the study of the epidemiology of plague. Meded. Dienst Volksgezondh. Ned.-Ind., Batavia Foreign edn. 20 1931 pp. 35–72, 18 figs. [Siphonapt.]

1506.—Korschevsky, R. Coceinelidae I. Coleopt. Catalogus, Berlin 118 1931 pp. 1–224.

1507.—Korschelt, E. Regeneration und Transplantation, Berlin, Bornträger 2 part 1 1931 695 pp. 417 figs. [Insects pp. 407–450.]

1508.—Körting, A. Beobachtungen über die Fluggewohnheiten der Fritfliege und einiger Getreidethysanopteren. Z. angew. Ent., Berlin 18 1931 pp. 154–160. [Dipt.]

1509.—Körting, A. Ueber die Entwicklung der grauen Gerstenminierfliege (*Hydrellia griseola* Fall.) bei verschiedener Ernährung. Z. PflKrankh., Stuttgart 41 1931 pp. 321–333, 3 graphs. [Dipt.]

Kozhantschikov see Kozhantschikov.

1510.—Kosmina, N. P., Alpatov, V. V. & Reznichenko, M. S. On the gas metabolism and energy production of the honey bee and their relation to the muscular activity. [In Russian with English summary.] Opuit. Paseka, [? Tula] 1930 pp. 399–413. [Hym.]

1511.—Kozhantschikov, W. Materialien zur Macrolepidopteren Fauna des Minussinsk Bezirks. [In Russian.] Jahrb. Martj. Staatsmus. Minussinsk. 5 1927 pp. 51–52; 6 (1928) 1929 pp. 64–82.

1512.—Kozhants[c]hikov, J. Interrelations between the thanatosis and the central nervous functions in *Lochmaea capreae* L. [In Russian with English summary.] Bull. Plant Prot., Leningrad 3 1931 pp. 233–240, 1 fig. [Col.]

1513.—Kratky, E. Morphologie und Physiologie der Drüsen in Kopf und Thorax der Honigbiene (*Apis mellifica* L.). Z. wiss. Zool., Leipzig 139 1931 pp. 120–200, 27 figs. [Hym.]

1514.—Krauss, H. A. Diagnosen neuer Orthopteren aus Südarabien und von der Insel Sokotra. Anz. Akad. Wiss. Wien 7 1902 pp. 1–5.

1515.—Krauss, H. A. Orthopteren aus Südarabien und von der Insel Sokotra. Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931 pp. 1–30, 2 pls.

1516.—Krekich-Strassoldo, J. de. Diagnoses de quatre Anthicides nouveaux d'Abyssinie. Abeille, Paris 31 1923 pp. 181–184. [Col.]

1517.—Krekich-Strassoldo, H. Beiträge zur Kenntnis indischer Anthiciden II. Folia zool. hydrobiol., Riga 3 1931 pp. 1–41, 3 pls. [Col.]

1518.—Kremky, J. Neotropische Lepidopteren aus der Unterfamilie Pericopsinae (Arctiidae) in der Sammlung des Polnischen Zoologischen Staatsmuseums. Ann. Mus. zool. polon., Warsaw 9 1931 pp. 167–178, 4 pls.

1519.—Krijgsman, B. J. Reizphysiologische Untersuchungen an Blutsaugenden Arthropoden im Zusammenhang mit ihrer Nahrungswahl. I. Teil. *Stomoxys calcitrans*. Z. vergl. Physiol., Berlin 11 1930 pp. 702–729, 2 figs. [Dipt.]

1520.—Krijgsman, B. J. & Windred, G. L. Reizphysiologische Untersuchungen an Blutsaugenden Arthropoden im Zusammenhang mit ihrer Nahrungswahl. II. Teil. *Lyperosia exigua*. Z. vergl. Physiol., Berlin 13 1930 pp. 60–73, 2 figs. [Dipt.]

1521.—Kröber, O. The Conopidae of South Africa. Ann. Transvaal Mus., Pretoria 14 1931 pp. 49–102, 26 figs. [Dipt.]

1522.—Kröber, O. The Therevidae (Diptera) of South Africa. Ann. Transvaal Mus., Pretoria **14** 1931 pp. 103–134, 14 figs.

1523.—Kröber, O. Dreizehn neue neotropische *Tabanus*-arten. Konowia, Vienna **10** 1931 pp. 291–300. [Dipt.]

1524.—Kröber, O. Die Pelecorhynchinae und Melpiinae Südamerikas (Dipteren, Tabanidae). Mitt. zool. Mus. Hamburg **44** 1931 pp. 149–196, 33 figs.

1525.—Kröber, O. Die kleinen Gattungen der Dichelacerinae End. aus der südamerikanischen Region (Tabanidae). Rev. Ent., São Paulo **1** 1931 pp. 282–298, 11 figs. [Dipt.]

1526.—Kröber, O. Neue tropische Tabaniden aus den Unterfamilien Belardiinae und Tabaninae. Rev. Ent., São Paulo **1** 1931 pp. 400–417, 18 figs. [Dipt.]

1527.—Kröber, O. Die Tabaniden Neuseelands. Stettin. ent. Z. **92** 1931 pp. 58–89, 12 figs. [Dipt.]

1528.—Kröber, O. Neue Tabaniden aus Südamerika im Stettiner Museum. Stettin. ent. Z. **92** 1931 pp. 90–93. [Dipt.]

1529.—Kröber, O. Neue süd- und mittelamerikanische Arten der Diptergattung *Tabanus* L. Stettin. ent. Ztg. **92** 1931 pp. 275–305.

1530.—Kröber, O. Die *Tabanus*-Gruppen *Straba* End. und *Poecilosoma* Lutz (= *Hybostraba* End. und *Hybopelma* End.) der neotropischen Region. Zool. Anz., Leipzig **94** 1931 pp. 67–89, 20 figs. [Dipt.]

1531.—Kröber, O. Neue Arten aus dem Genus *Esenbeckia* Rond. (Dipt. Tabanidae). Zool. Anz., Leipzig **94** 1931 pp. 245–257, 7 figs.

1532.—Kröber, O. Neue Arten der Gattung *Fidena* Walk. (Dipt. Tabanidae). Zool. Anz., Leipzig **95** 1931 pp. 17–37, 19 figs.

1533.—Kröber, O. Die *Tabanus*-Untergattung *Gymnochela* End. (Diptera, Tabanidae). Zool. Anz., Leipzig **96** 1931 pp. 49–61, 9 figs.

1534.—Krogerus, R. Beobachtungen über *Bledius*- und *Dyschirius*-Arten auf Degersand (Al Eckerö). Mem. Soc. Fauna fenn., Helsingfors **5** (1928–1929) 1930 pp. 70–73. [Col.]

1535.—Krogerus, R. Studien über *Catops*-Arten. Notul. ent., Helsingfors **11** 1931 pp. 1–25, 27 figs. [Col.]

1536.—Krüger, E. Ueber die Farbenvariationen der Hummelart *Bombus agrorum* Fabr. II. Teil. Z. Morph. Oekol. Tiere, Berlin **24** 1931 pp. 148–237, 50 figs. [Hym.]

1537.—Krumbiegel, I. Rassenphysiologische Untersuchungen an Carabiden, ein Beitrag zum Problem der Artbildung. Verh. Deutsch. zool. Ges., Leipzig **34** 1931 pp. 219–225. [Col.]

Kumashiro, S. see Harukawa, Takato & Kumashiro.

1538.—Kumm, H. W. Studies on *Aedes* larvae in south-western Nigeria and in the vicinity of Kano. Bull. Ent. Res., London **22** 1931 pp. 65–74, 8 figs. [Dipt.]

1539.—Kuntze, R. Vergleichende Beobachtungen und Betrachtungen über die xerotherme Fauna in Podolien, Brandenburg, Oesterreich und der Schweiz. Z. Morph. Oekol. Tiere, Berlin **21** 1931 pp. 629–690, 1 fig.

1540.—Kurentzov, A. On the vertical distribution of Lepidoptera in the Sikhota Alin Mts. [In Russian.] Izv. State Geogr. Soc., Vladivostock **2** (xix) 1929 pp. 41–50.

1541.—Kurochkin, A. A. Pollinator and Pollination. [In Russian.] Oput. Paseka, [? Tula] 1930 pp. 379–383. [Hym.]

1542.—Kusdas, K. Beiträge zur obersteirischen Falterfauna. I. Nachtrag. Ent. Z., Frankfurt a. M. **45** 1931 pp. 142–146, 160–161, 177–181, 198–201, 212–214, 226–228. [Lep.]

1543.—Kuskow, D. Zwei für Estland neue Schmetterlingsarten. Beitr. Kunde Estlands, Reval **15** 1929 pp. 52–53. [Lep.]

1544.—Kutter, H. Mit Bananen eingeschleppte Ameisen. Mitt. schweiz. ent. Ges., Berne **15** 1931 pp. 61–64. [Hym.]

1545.—Kuwana, I. Scale-insects of Amamioshima, with descriptions of four new species. [In Japanese with English descriptions.] Dobuts. Zasshi, Tokyo **43** 1931 pp. 163–171, 4 figs. Hem.]

1546.—Kuwana, I. On the genus *Kermes* in eastern Asia. [In Japanese with description of new sp. in English.] Kontyû, Tokyo 5 1931 pp. 47-51, 5 figs. [Hem.]

1547.—Kuwana, I. On the *Aclerda* of Japan. [In Japanese.] Oyo-Dobuts. Zasshi, Tokyo 3 1931 pp. 229-231. [Hem.]

1548.—Kuwana, I. The Diaspine Coccidae of Japan, VI. Genus *Phenacaspis*. Sci. Bull. Minist. Agric. For. Japan, Tokyo 2 1931 pp. 1-14, 3 pls. [Hem.]

1549.—Kuwana, I. The genus *Kermes* of Japan. Sci. Bull. Minist. Agric. For. Japan, Tokyo 2 1931 pp. 15-29, 8 pls. 5 figs. [Hem.]

1550.—Kuwana, I. & Muramatsu, K. New scale-insects and whitefly found upon plants entering Japanese ports. [In Japanese with English descriptions.] Dobuts. Zasshi, Tokyo 43 1931 pp. 647-660, 6 pls. [Hem.]

1551.—Kuwana, I. & Muramatsu, K. A new scale-insect of the genus *Aspidiotus* found on *Cymbidium faberi* from China. [In Japanese with English summary.] J. Plant Prot., Tokyo 18 1931 pp. 335-338, 1 pl. [Hem.]

1552.—Kuwayama, S. A revision of the Psyllidae of Taiwan. Insecta matsum., Sapporo 5 1931 pp. 117-133, 2 figs. [Hem.]

1553.—[Kuznetsov] Kuznecov, N. Dépendance entre la distribution géographique des Asciidae (Lepidoptera) et la distribution ainsi que la constitution chimique de leurs plantes nourricières. [In Russian.] Annu. Mus. zool. Acad. Leningrad 31 1930 pp. 49-63.

1554.—[Kuznetsov] Kuznecov, N. On the systematic position of the genus *Davidina* Obth. (Lepidoptera, Papilionoidea). Annu. Mus. zool. Acad. Leningrad 31 (1930) 1931 pp. 347-358, 4 pls.

1555.—[Kuznetsov] Kuznecov, V. Aufzeichnungen über von Prof. D. N. Kaschkarov im Rayon Arslan-bob gesammelte Homoptera. [In Russian with German summary.] Bull. Univ. Asie Centr., Tashkent 18 1929 pp. 29-35.

1556.—[Kuznetsov] Kusnezov, V. Asiatische *Penthimia*-Arten. Ent. NachrBl., Troppau 5 1931 pp. 8-12. [Hem.]

1557.—[Kuznetsov] Kusnezov, V. Uebersicht der asiatischen *Adelungia*-Arten (Homopt.-Jassidae). Ent. NachrBl., Troppau 5 1931 pp. 102-106, 6 figs.

1558.—[Kuznetsov] Kusnezov, V. Neue *Thamnotettix*-Arten. Konowia, Vienna 10 1931 pp. 1-2, 1 fig. [Hem.]

1559.—[Kuznetsov] Kusnezov, V. Uebersicht der asiatischen weissgeflügelten *Tibicina*-Arten (Homopt.-Cicadidae). Konowia, Vienna 10 1931 pp. 15-18.

1560.—[Kuznetsov] Kusnezov, V. Eine neue *Petaloccephala*-Art (Hemipt. Cicad.). Wien. ent. Ztg. 48 1931 pp. 112-114.

1561.—Kuznetsov-Ugamskii, N. N. Contribution to the biology of the rose gall-wasp (*Rhodites* sp.) in Middle Asia. [In Russian with English summary.] Rev. zool. russe, Moscow 10 no. 3 1930 pp. 43-58, 1 fig. [Hym.]

1562.—Laake, E. W., Parman, D. C., Bishopp, F. C. & Roark, R. C. The chemotropic responses of the house-fly, the green-bottle flies, and the black blowfly. Tech. Bull. U.S. Dept. Agric., Washington, D.C. 270 1931 10 pp. [Dipt.]

1563.—Laboissière, V. Observations sur les Galerucini asiatiques principalement du Tonkin et du Yunnan et description de nouveaux genres et espèces. Ann. Soc. ent. Fr., Paris 100 1931 pp. 133-152, 8 figs. [Col.]

1564.—Laboissière, V. Galerucini africains nouveaux ou peu connus de la collection du Deutsches Entomologisches Museum. Ent. Bl., Berlin 27 1931 pp. 23-35, 2 figs.

1565.—Laboissière, V. Contributions à l'étude de la faune du Mozambique, Voyage de M. P. Lesne (1928-1929). 4^e note.—Coléoptères, Galerucini. Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 48 1931 55 pp. 20 figs.

1566.—Laboissière, V. Galerucini africains nouveaux ou peu connus de la collection du Deutsches Entomologisches Institut. Geneva 38 1931 pp. 405-418, 6 figs.

1567.—Laboissière, V. Galerucini africains nouveaux ou peu connus de la collection du Deutsches Entomologisches Institut. Wien. ent. Ztg. 48 1931 pp. 42-57, 3 figs. [Col.]

1568.—Lack, D. Coleoptera on St. Kilda in 1931. Ent. Mon. Mag., London 67 1931 pp. 276-279.

1569.—Lackschewitz, P. Die Neuropteren und Trichopteren des ostbaltischen Gebietes. Arch. Naturk. Ostbalt., Dorpat (2) 14 1922 Biol. no. 3 pp. 1-64.

1570.—Lackschewitz, P. Nachträge zu den Neuropteren und Trichopteren des ostbaltischen Gebietes. Arch. Naturk. Estl., Dorpat (2) 14 1928 Biol. no. 4 pp. 1-40, 6 figs.

1571.—Lacroix, J. L. Notes sur les Chrysopides. Bull. Soc. ent. Fr., Paris 1931 pp. 173-174. [Neuropt.]

1572.—Lahille, F. Un hormiguero en una spina. Rev. Soc. ent. argent., Buenos Aires 3 1931 pp. 203-206, 1 pl. [Hym.]

1573.—Laidlaw, F. F. Remarks on some Odonata (Dragonflies) from Mangalum Island, North-west Borneo. Bull. Raffles Mus., Singapore 5 1931 pp. 90-92.

1574.—Laidlaw, F. F. A list of the dragonflies (Odonata) of the Malay Peninsula with descriptions of new species. J. F.M.S. Mus., Kuala Lumpur 16 1931 pp. 175-233, 6 figs.

1575.—Laidlaw, F. F. A revised list of the dragonflies (Odonata) of Borneo. J. F.M.S. Mus., Kuala Lumpur 16 1931 pp. 234-250.

1576.—Laidlaw, H. H. Artificial insemination of queen bees. Anat. Rec., Philadelphia 51 1931 suppl. p. 119. [Hym.]

1577.—Laidlaw, W. B. R. The pinecone weevil (*Pissodes validirostris*) in Britain; with a brief comparative account of the genus *Pissodes*. Scot. Nat., Edinburgh no. 189 1931 pp. 79-84, 1 fig. [Col.]

1578.—Laing, F. A new Coccid injurious to fruit trees in Baluchistan. Mem. Dept. Agric. India, Calcutta 12 1931 pp. 99-100, 1 pl. [Hem.]

1579.—Lallemand, V. Description de deux nouveaux Cercopides. Bull. Ann. Soc. ent. Belg., Brussels 71 1931 pp. 75-76. [Hem.]

1580.—Lallemand, V. Quelques espèces et variétés nouvelles de Cercopides exotiques des collections du

Musée zoologique de Hamburg. Folia zool. hydrobiol., Riga 2 1931 pp. 164-169. [Hem.]

1581.—Lallemand, V. Description d'un Homoptère nouveau de la famille des Issidae. Konowia, Vienna 10 1931 pp. 255-256.

1582.—Lallemand, V. Description de trois nouveaux Homoptères congolais. Rev. Zool. Bot. afr., Brussels 20 1931 pp. 302-303.

Lallemant, G. F. H. Avé see Avé Lallemant.

Lambers see Hille Ris Lambers.

1583.—Lameere, M. La philosophie des sociétés des insectes. Mém. Soc. ent. belg., Brussels 23 1931 pp. xvii-xxxiii.

1584.—Lapouge, G. V. de. Coleoptera Adepaga. Fam. Carabidae Subfam. Carabinae. Troisième partie. Gen. Ins., Brussels 192b 1931 pp. 293-580.

1585.—Lapouge, G. de. Tribu des Carabini. Tableau des genres et sous-genres. Misc. ent., Castanet-Tolosan 33 1931 sep. pp. 1-30. [Col.]

1586.—Larsén, O. Biologische Beobachtungen an schwedischen *Notonecta*-Arten. Ent. Tidskr., Stockholm 51 1930 pp. 219-247, 6 figs. [Hem.]

1587.—Larsén, O. Beiträge zur Oekologie und Biologie von *Aphe-locheirus aestivalis* Fabr. Int. Rev. Hydrobiol., Leipzig 26 1931 pp. 1-19, 4 pls. [Hem.]

1588.—Lasarow, A. W. Untersuchungen über die Biologie des Erbsenkäfers *Laria (Bruchus) pisi* L. und seine Beschädigungen. [In Bulgarian with German summary.] Mitt. bulgar. ent. Ges. Sofia 6 1931 pp. 98-114. [Col.]

1589.—Lathrop, F. H. & Nickels, C. B. The blueberry maggot from an ecological viewpoint. Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 260-274, 4 pls. 3 figs. [Dipt.]

1590.—Laurinat, K. Ueber den Einfluss des Keimzellalters auf das Geschlechtsverhältnis bei *Drosophila melanogaster*. Z. indukt. Abstamm. Vererb. Lehre, Leipzig 57 1931 pp. 139-210 10 figs. [Dipt.]

1591.—Lavrov, S. D. Lepidoptera of the Teniso-Kurgaldjine zoological expedition. [In Russian.] Izv. W. Siberian Sect. Russ. Geogr. Soc., Omsk 7 1930 pp. 162-163.

1592.—Lawson, P. B. The genus *Drylix* in North America (Homoptera, Cicadellidae). Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 587-590, 1 pl.

1593.—Lawson, P. B. Three new species of *Acinopterus* with notes on other species (Homoptera, Cicadellidae). J. Kansas Ent. Soc., McPherson 4 1931 pp. 59-61.

1594.—Lawson, P. B. The genus *Xerophloea* in North America (Homoptera, Cicadellidae). Pan-Pacific Ent., San Francisco 7 1931 pp. 159-169, 1 pl.

1595.—Lea, A. M. On Baridiinae (Curculionidae), mostly from New Guinea. Proc. Linn. Soc. N.S.W., Sydney 66 1931 pp. 139-171, 37 figs., [Col.]

1596.—Lea, A. M. Australasian Coleoptera. Rec. S. Aust. Mus., Adelaide 4 1931 pp. 365-408, 1 pl. 1 fig.

1597.—Lea, A. M. On some Mordellidae from New Guinea and Fiji. Trans. Ent. Soc. London 79 1931 pp. 311-321, 2 figs. [Col.]

1598.—Lea, A. M. On some Coleoptera from northern Australia, collected by Dr. H. Basedow. Trans. Roy. Soc. S. Aust., Adelaide 54 1930 pp. 148-154, 1 fig.

1599.—Lean, O. B. On the recent swarming of *Locusta migratorioides*, R. & F. Bull. Ent. Res., London 22 1931 pp. 365-378, 9 figs. [Orth.]

1600.—Lean, O. B. The effect of climate on the migrations and breeding of *Locusta migratorioides* in Nigeria. Bull. Ent. Res., London 22 1931 pp. 551-569, 8 figs. [Orth.]

1601.—Lean, O. B. Notes on the breeding of *Nomadacris septemfasciata* (Orth., Acrid.) on the shores of Lake Chad. Bull. Ent. Res., London 22 1931 pp. 571-572.

1602.—Lebedev, A. G. Zwei neue Coleopteren aus Central-Asien. Ent. NachrBl., Troppau 5 1931 pp. 78-79.

1603.—Lebedev, A. G. & Savenkoy, A. N. Contribution to the study of the biocoenosis of the pine forest. [In Russian.] Plant Prot., Leningrad 7 1931 pp. 1-17.

le Doux *see* Doux.

1604.—Leech, H. B. Notes on new methods of collecting beetles. Proc. Ent. Soc. Br. Columbia no. 27 1930 pp. 11-12. [Col.]

1605.—Leeimans, S. Notes on three Dynastid beetles noxious to coconut tree in the Netherlands Indies. [In Dutch with English summary.] Korte Meded. Inst. PlZiekt., Buitenzorg no. 15 1931 17 pp. 2 pls. [Col.]

1606.—Leeson, H. S. Anopheline mosquitos in southern Rhodesia 1926-1928. Mem. London Sch. Hyg. Trop. Med. no. 4 1931 55 pp. 15 pls. 10 figs. [Dipt.]

1607.—Lemche, H. *Amphidasis betularia* (L.) and its melanic varieties. J. Genet., Cambridge 24 1931 pp. 235-240, 1 pl. [Lep.]

1608.—Le Mout, E. Formes nouvelles ou peu connues d'*Agrias* (Lép. Nymph.) Ire note. Novit. ent., Paris 1 1931 pp. 1-5.

1609.—Le Mout, E. Formes nouvelles ou peu connues de *Morpho* (Lép.). Ire note. Novit. ent., Paris 1 1931 pp. 5-8.

1610.—Lempke, J. B. A propos de la priorité chez certaines aberrations [contd.]. Lambillionea, Brussels 31 1931 pp. 15-20, 26-28, 60-68, 117-119, 181-184. [Lep.]

Lengerken, H. von *see* Heymons & Lengerken.

1611.—Lengersdorf, F. Beiträge zu einer Höhlenfauna Westfalens. Abh. Westf. Prov. Mus. Naturk., Münster 1 1930 pp. 99-123, 1 pl. [Insects pp. 115-119.]; 2 1931 pp. 121-128. [Insects pp. 121-123, 128.]

1612.—Lengersdorf, F. Neue *Sciara* (*Lycoria*) Arten aus der Sammlung des Zoologischen Instituts der Universität Halle. Zool. Anz., Leipzig 96 1931 pp. 251-255, 3 figs. [Dipt.]

1613.—Lenz, F. Salzwasser-Chironomus. Weiterer Beitrag zur Frage der Blutkiemenverkürzung. Mitt. geogr. Ges. Lübeck (2) 31 1926 pp. 153-169, 2 figs. [Dipt.]

1614.—Lenz, F. Stratiomyidenlarven aus dem Salzwasser. Mitt. geogr. Ges. Lübeck (2) 31 1926 pp. 170–175, 4 figs. [Dipt.]

1615.—Lenz, F. Ueber Zugfalter. Int. ent. Z., Guben 25 1931 pp. 197–201. [Lep.]

1616.—Lenz, F. Ueber Kümmerformen des Lindenschwärmers. Int. ent. Z., Guben 25 1931 pp. 213–214. [Lep.]

1617.—Leonard, M. D. Two new species of *Symphoromyia* (Rhagionidae, Diptera) from the eastern United States. Amer. Mus. Nov., New York no. 497 1931 2 pp.

1618.—Leonard, M. D. A bibliography of the banana root weevil. J. Dept. Agric. Porto Rico, Rio Piedras, P.R. 15 1931 pp. 147–176. [Col.]

1619.—Leonard, M. D. Some notes on my revision of the Rhagionidae (Diptera). Trans. Amer. Ent. Soc., Philadelphia 57 1931 pp. 321–323.

1620.—Leonard, M. D. & Mills, A. S. Observations on the bean lace-bug in Porto Rico. J. Dept. Agric. Puerto Rico, Rio Piedras, P.R. 15 1931 pp. 309–323, 2 pls. [Hem.]

1621.—Lépiney, J. de. Sur l'orientation des mouvements grégaires de *Schistocerca gregaria*. Rev. Path. vég. Ent. agric., Paris 18 1931 pp. 193–200. [Orth.]

1622.—Lépiney, J. de & Mimeur, J. M. Les Coccides du Maroc. Note préliminaire. Rev. Path. vég. Ent. agric., Paris 18 1931 pp. 243–255. [Hem.]

1623.—Lesne, P. Notes sur les Coléoptères térédiles. Bull. Mus. Hist. nat. Paris (2) 3 1931 pp. 96–105, 4 figs.

1624.—Lesne, P. Sur les mœurs des *Pseudophonus* (Col. Carabidae). Bull. Soc. ent. Fr., Paris 1931 pp. 283–284.

1625.—Lesne, P. L'adaptation organique chez les insectes xylophages de la famille des Bostrychides. Commensalisme des *Lyctoderma*. C.R. Acad. Sci. Fr., Paris 192 1931 pp. 812–815. [Col.]

Lespes, L. see Regnier, Lespes & Rungs.

1626.—Lestage, J. A. Etudes sur la biologie des Plécoptères. vi. Le type larvaire peltoperlien. Rec. Inst. zool. Torley-Rousseau, Brussels 1 1927 pp. 83–98, 17 figs.

1627.—Lestage, J. A. Notes sur le genre *Massartella* nov. gen. de la famille des Leptophlebiidae (Ephemeroptera) et le génotype *Massartella brieni* Lest. Miss. biol. Belge Brésil (Aug. 1922–May 1923), Brussels 2 1930 pp. 249–258, 1 fig.

1628.—Lestage, J. A. Les pseudo *Hexagenia* de la faune éthiopienne (Ephemeroptera). Bull. Ann. Soc. ent. Belg., Brussels 71 1931 pp. 39–40.

1629.—Lestage, J. A. Contribution à l'étude des Ephéméroptères. VIII. Bull. Ann. Soc. ent. Belg., Brussels 71 1931 pp. 41–60, 5 figs.

1630.—Lestage, J. Les Ephéméroptères de la Belgique. Bull. Ann. Soc. ent. Belg., Brussels 71 1931 pp. 85–91, 199–202.

1631.—Lestage, J. A. Note à propos l'homonymie de deux Ephéméroptères. Bull. Ann. Soc. ent. Belg., Brussels 71 1931 p. 119.

1632.—Lestage, J. A. Notes tri-choptérologiques. XII. La présence de *Molanna angustata* Curt. dans les eaux lénitiques de la Belgique. Bull. Ann. Soc. ent. Belg., Brussels 71 1931 pp. 193–198.

Le Veque, N. see Cockerell & Le Veque.

1633.—Levtshuk, L. Contributions to the comparative anatomy of the genitalia of Elateridae. [In Russian with English summary.] Rev. russe Ent., Leningrad 24 1930 pp. 135–155, 7 plates. [Col.]

1634.—Li, Ju-Ch'i. A new food for laboratory cultures of *Drosophila*. Peking Nat. Hist. Bull., Peiping 5 1931 pt. 4 pp. 29–31. [Dipt.]

1635.—Liebermann, J. Esfégidos argentinos del género *Sphex* con la descripción de una nueva especie de Esfégido tucuricida. An. Soc. cient. argent., Buenos Aires 112 1931 pp. 5–26, 79–101, 5 figs. [Hym.]

1636.—Liebermann, J. & Gemignani, E. Un nuevo género y dos nuevas especies de Thysanópteros argentinos. Rev. Soc. ent. argent., B. Aires 3 1931 pp. 211–216, 1 pl.

1637.—Liebke, M. Laufkäfer-Studien VII-IX. Ent. Anz., Vienna 11 1931 pp. 261-263, 2 figs., 358-361, 389-392, 2 figs., 430. [Col.]

1638.—Liebke, M. Die afrikanischen Arten der Gattung *Colliuris* DeGeer (Col. Car.). Rev. Zool. Bot. afr., Brussels 20 1931 pp. 280-301, 19 figs.

1639.—Liebmann, E. Weitere Untersuchungen über das Chloragogen. Zool. Jahrb., Jena Anat. 54 1931 pp. 417-434, 2 pls. [Insects pp. 431-432.]

1640.—Liefertinck, M. A. The Odonata of Nias Island. Misc. zool. sumat., Medan 59 1931 6 pp. 1 map.

1641.—Liefertinck, M. A. A revision of the genus *Epophthalmia* Burm. (Odon., Corduliinae), with notes on habits and larvae. Treubia, Buitenzorg 13 1931 pp. 21-80, 1 pl. 29 figs.

1642.—Light, S. F. Present status of our knowledge of the termites of China. Lingnan Sci. J., Canton 7 (1929) [1931] pp. 581-600. [Isopt.]

1643.—Light, S. F. The termites of Nevada. Pan-Pacific Ent., San Francisco 8 1931 pp. 5-9. [Isopt.]

1644.—Lindberg, H. & Bernhauer, M. Inventa entomologica itineris Hispanici et Marocani, quod a. 1926 fecerunt Harald et Håkan Lindberg. vii. Staphylinidae. Comment. Biol. Soc. Sci. Fenn., Helsingfors 3 1931 no. 12 pp. 1-29, 4 figs. [Col.]

Lindberg, H. see Jensen-Haarup & Lindberg.

1644a.—Lindinger, L. Beiträge zur Kenntnis der Schildläuse III. Ent. Rdsch., Stuttgart 48 1931 pp. 8-10, 19-21, 26-28, 43-44, 68, 79-80, 89-92, 113-115, 122-123, 180. [Hem.]

1645.—Lindner, E. Die Fliegen der Palaearktischen Region. Stuttgart 1930, 1931. General 1 pp. 97-144, 1 pl. 115 figs.; Culicidae 11 & 12 pp. 321-398, 70 figs.; Dolichopodidae 29 1930 pp. 1-64, 2 pls. 31 figs.; Syrphidae 31 pp. 241-336, 4 pls. 48 figs.; Neottiophilidae 38b pp. 11-15, 14 figs.; Agromyzidae 59 pp. 1-256, 259 figs. See Czerny, Hendel, Martini, Sack, Stackelberg.

1646.—Lindner, E. Dipterologische Studien IV. Konowia, Vienna 10 1931 pp. 85-88.

1647.—Lindner, E. Beitrag zur Kenntnis der südamerikanischen Stratiomyidenfauna (Dipt.). Rev. Ent., São Paulo 1 1931 pp. 304-312, 5 figs.

1648.—Lindner, E. Einige von Dr. Erich Schmidt und Prof. Dr. Franz Werner in Algerien und Marokko gesammelte Dipteren (Stratiomyidae, Rhagionidae, Nemestrinidae). Sitzber. Ges. naturf. Fr. Berlin 1931 pp. 203-206.

1649.—Lindroth, C. H. Anmärkingar till några svenska Heteromerer. Mit deutscher Zusammenfassung. Ent. Tidskr., Stockholm 51 1930 pp. 112-133, 23 figs. [Col.]

1650.—Lindroth, C. H. Die Insektenfauna Islands und ihre Probleme. Zool. Bidr. Uppsala 13 1931 pp. 105-589, 50 figs.

1651.—Lindsey, A. W., Bell, E. L. & Williams, R. C. The Hesperioidea of North America (new edition). J. Sci. Labs. Denison Univ., Ohio 26 1931 pp. 1-142, 33 pls. [Lep.]

1652.—Lindström, M. T. V. Entomogeografiska anteckningar. [In Swedish with German summary.] Ent. Tidskr., Stockholm 51 1930 pp. 7-29. [Lep.]

Lippmann, H. see Rona, Parfentjev & Lippmann.

1653.—Lommatzsch, W. Die Grossschmetterlingsfauna um Frankfurt-a.-M. im Jahre 1929. Ent. Anz., Vienna 11 1931 pp. 11-14, 33-36, 53-56, 69-76, 91-94. [Lep.]

1654.—Lommatzsch, W. Macrolepidopterologische Sammelergebnisse im Berner Oberland und Oberengadin 1927 und 1928. Ent. Z., Frankfurt-a.-M. 44 1931 pp. 292-295, 329-355.

1655.—Lommatzsch, W. Beitrag zur Kenntnis der Gross-Schmetterlingsfauna von Vorpommern und Rügen, insbesondere der Umgebung von Greifswald. Int. ent. Z., Guben 24 1931 pp. 395-399, 420-423; 25 1931 pp. 60-61, 203-205, 223-224, 239-240, 258-259, 279-280, 324-326, 371-372. [Lep.]

1656.—Lomnicki, J. Uebersicht der Ameisen der polnischen Teile des Tatra-Gebirges. [In Polish with German summary.] Polsk. Pismo ent., Lemberg 10 1931 pp. 97-101. [Hym.]

1657.—Longfield, C. A list of the Odonata of British Somaliland and a description of a new species of the genus *Enallagma*. Entomologist, London **64** 1931 pp. 274–278, 2 figs.

Longfield, C. *see* Thomas et al.

1658.—Lopez, A. W. Annual Report of the Entomologist, Research Bureau Philippine Sugar Association 1930–31. Ann. Rep. Res. Bur. Philipp. Sugar Ass. 1930–31, Manila [1931] pp. 227–273, 4 pls. 4 figs. 1 chart. [Col., Hym.]

1659.—Lopez, A. W. The use of the antennae as a means of determining the sexes in *Leucopholis irrorata* adults (Coleoptera, Scarabaeidae). Philipp. J. Sci., Manila **46** 1931 pp. 759–763, 1 pl.

1660.—Lorković, Z. Verwandtschaftliche Beziehungen in der *morsei-major-sinapis* Gruppe des Gen. *Leptidea*. (Kritischer Beitrag zur Auffassung des Speziesbegriffes.) [Contd.] Z. öst. EntVer., Vienna **16** 1931 pp. 9–13, 37–39, 45–48, 1 pl. [Lep.]

1661.—Lotharstein, E. Skelettstruktur bei den Raupen *Bombyx mori*. [In Russian with German summary.] Arb. Moskau. ForschSta. Seide u. Seidenraupenzucht **2** 1927 no. 1–2 pp. 39–47, 2 figs. [Lep.]

1662.—Louvel, M. [Insectes utiles et nuisibles.] L'exploitation des eaux douces de Madagascar (Pêche et pisciculture). Tananarive 1930 pp. 37–40, 8 pls.

1663.—Lowther, R. C. Macro-Lepidoptera of a garden at Grange-over-Sands in North Lancashire. Entomologist, London **64** 1931 pp. 128–135.

1664.—Lucas, D. Espèces et formes nouvelles de Lépidoptères. Bull. Soc. ent. Fr., Paris 1931 pp. 95–96.

1665.—Lucas, F. F. & Stark, M. B. A study of living sperm cells of certain grasshoppers by means of the ultra-violet microscope. J. Morph., Philadelphia **52** 1931 pp. 91–114, 4 pls. 9 figs. [Orth.]

1666.—Lucas, W. J. Notes on British Orthoptera in 1930. Entomologist, London **64** 1931 pp. 121–123.

1667.—Lucas, W. J. Mud cells (nests) of *Eumenes coarctata* Linn. (Hymen.). Entomologist, London **64** 1931 pp. 145–146, 1 pl.

1668.—Lucas, W. J. Notes on British Paraneuroptera in 1930. Entomologist, London **64** 1931 pp. 175–179. [Odon.]

1669.—Lucas, W. J. Notes on British Neuroptera and Mecoptera in 1930. Entomologist, London **64** 1931 pp. 243–244.

1670.—Lucassen, F. T. V. Note pouvant servir à la monographie du genre *Clerota* Burm. (Scarabaeidae: Cetoniinae). Tijdschr. Ent., Amsterdam **74** 1931 pp. 157–168. [Col.]

1671.—Luce, W. M. The temperature-effective period in infrabar and its heterozygotes. J. Exp. Zool., Philadelphia **59** 1931 pp. 467–498, 11 figs. [Dipt.]

1672.—Ludwig, D. The effects of temperature on the development of an insect (*Popillia japonica* Newman). Physiol. Zool., Chicago **1** 1928 pp. 358–398, 9 figs. [Col.]

1673.—Ludwig, D. The effect of exposure to cold on the embryonic development of the Japanese beetle (*Popillia japonica* Newman). Physiol. Zool., Chicago **3** 1930 pp. 291–299, 2 figs. [Col.]

1674.—Ludwig, D. The effect of temperature on the growth curves of the Japanese beetle (*Popillia japonica* Newman). Anat. Rec., Philadelphia **51** 1931 suppl. p. 44. [Col.]

1675.—Ludwig, D. Studies on the metamorphosis of the Japanese beetle (*Popillia japonica* Newman). i. Weight and metabolism changes. J. Exp. Zool., Philadelphia **60** 1931 pp. 309–323, 2 figs. [Col.]

1676.—Ludwig, W. Die Flügelage der Feuerwanze. Ein Beitrag zum Rechts-Links-Problem. Verh. Deutsch. zool. Ges., Leipzig **34** 1931 pp. 213–219. [Hem.]

1677.—Luederwaldt, H. Novas especies brasileiras do genero *Pinotus*, grupo de *fissus* (Col. Lamellic.-Copridae). [In Spanish & German.] Bol. Mus. nac. Rio de Janeiro **6** 1930 pp. 119–122.

1678.—Luederwaldt, H. Novos Lucanideos brasileiros (Col.). [In Spanish & German.] Bol. Mus. nac. Rio de Janeiro **6** 1930 pp. 123–127.

1679.—Luederwaldt, H. Notas sobre Passalideos americanos (Col. Lamell.). Rev. Ent., São Paulo 1 1931 pp. 62–65, 1 fig.

1680.—Luederwaldt, H. Novos subdidos para o conhecimento do genero *Pinotus* (Col. Lamell. Copridae). Rev. Ent., São Paulo 1 1931 pp. 298–304, 6 figs.

1681.—Luederwaldt, H. Monographia dos Passalideos do Brasil. Rev. Mus. paul., São Paulo 17 1931 pp. 1–262, 2 pls. 26 figs. [Col.]

1682.—Luederwaldt, H. Tres especies novas de *Pinotus*, supplementos a' memoria "As especies brasileiras do genero *Pinotus*" na "Revista do Museu paulista" tomo xvi, 1929, p. 603 ss. Rev. Mus. paul., São Paulo 17 1931 pp. 353–358, 1 pl. [Col.]

1683.—Luederwaldt, H. O genero *Ontherus* (Coleop.) (Lamellic.-Coprid.-Pinot.) com uma chave, para a determinação dos Pinotides americanos. Rev. Mus. paul., São Paulo 17 1931 pp. 363–422, 1 pl.

1684.—Luederwaldt, H. Duas especies novas brasileiras da familia dos Lucanideos (Col. Lamell.). Rev. Mus. paul., São Paulo 17 1931 pp. 423–426.

1685.—Luederwaldt, H. As especies sul-americanas de *Bolbocerat* (Col. Lamell. Geotrup.) salvo quanto as do Chile. Rev. Mus. paul., São Paulo 17 1931 pp. 427–454, 1 pl.

1686.—Luigioni, P. Terzo contributo alla conoscenza della fauna entomologica del Parco nazionale d'Abruzzo. Coleotteri. Atti Acc. Nuovi Lincei, Rome 84 (1930–31) 1931 pp. 120–180.

1687.—Luigioni, P. Una nuova specie del genere *Amphimallus* Latr. dell'Italia meridionale. Coleoptera (Fam. Scarabaeidae). Atti Acc. Nuovi Lincei, Rome 84 (1930–31) 1931 pp. 509–514, 2 figs.

1688.—Lundblad, O. Ueber die Corixiden des zoologischen Museums in Halle, nebst einer Uebersicht der Gattung *Trichocorixia*. Zool. Anz., Leipzig 96 1931 pp. 85–95, 2 figs. [Hem.]

1689.—Lutshnik, W. Carabidae (Coleoptera). [In Russian with German summary.] Abh. Pamir Exped. 1928, Leningrad 2 1930 pp. 31–50, 1 pl.

1690.—Lutshnik, V. De novo Pogoninorum genere (Coleoptera, Carabidae). Ann. Mag. Nat. Hist., London (10) 8 1931 p. 528.

1691.—Lutz, F. E. Light as a factor in controlling the start of daily activity of a wren and stingless bees. Amer. Mus. Nov., New York no. 468 1931 9 pp. 1 fig. [Hym.]

1692.—Lutz, F. E. Notes on the animal life of thermal waters in the Yellowstone National Park. Amer. Mus. Nov., New York no. 498 1931 10 pp.

1693.—Lysaght, A. M. Biological notes on a long-horned grasshopper *Caedicia simplex* (Walk.). N.Z. J. Sci. Technol., Wellington 12 1931 pp. 296–303, 13 figs. [Orth.]

McAtee, W. L. see Malloch, Greene & McAtee.

1694.—McCann, C. The Cicada: *Lethana locusta* Walker. J. Bombay Nat. Hist. Soc. 35 1931 pp. 430–436, 5 figs. [Hem.]

1695.—McCrady, E. A microscopic study of the effects of X-rays on the ovarioles. Proc. Pennsylvania Acad. Sci., Harrisburg 4 1930 pp. 88–91. [Hym.]

1696.—MacDonagh, E. J. Observaciones experimentales sobre la biologia de *Chironomus bonariensis* (Diptera Nematocera). 6. Reun. Soc. argent. Pat. reg. Norte, Buenos Aires 1931 pp. 514–520, 4 figs.

1697.—McDunnough, J. The bicolor group of the genus *Ephemerella* with particular reference to the nymphal stages (Ephemeroptera). Canad. Ent., Orillia 63 1931 pp. 30–42, 61–68, 4 pls.

1698.—McDunnough, J. New species of North American Ephemeroptera. Canad. Ent., Orillia 63 1931 pp. 82–93.

1699.—McDunnough, J. The genus *Osomychia* (Ephemeroptera). Canad. Ent., Orillia 63 1931 pp. 157–163, 1 pl.

1700.—McDunnough, J. The eastern North American species of the genus *Ephemerella* and their nymphs (Ephemeroptera). Canad. Ent., Orillia 63 1931 pp. 187–197, 201–216, 4 pls.

1701.—McDunnough, J. New North American Caeninae with notes (Ephemeroptera). Canad. Ent., Orillia 63 1931 pp. 254–268, 2 pls.

- Macfie, J. W. S.** *see* Ingram & Macfie.
- 1702.—MacGill, E. I.** The biology of Thysanoptera with reference to the cotton plant. VII. The relation between temperature and humidity and the life cycle. *Ann. Appl. Biol.*, Cambridge **18** 1931 pp. 574–583, 3 figs.
- 1703.—McGovran, E. R.** A method of measuring tracheal ventilation in insects and some results obtained with grasshoppers. *Ann. Ent. Soc. Amer.*, Columbus **24** 1931 pp. 751–761, 2 figs.
- 1704.—MacGregor, M. E.** Ultra-violet rays and mosquito larvae. *Nature*, London **128** 1931 p. 68. [Dipt.]
- 1705.—Machulka, V.** Zwei neue balkanische *Neuraphes*-Arten. *Acta Soc. ent. Čech.*, Prague **27** 1930 pp. 124–128. [Col.]
- 1706.—McIndoo, N. E.** Tropisms and sense organs of Coleoptera. *Smithson. Misc. Coll.*, Washington **82** 1931 no. 18 70 pp. 2 pls. 19 figs.
- 1707.—McKinley, E. B.** The salivary gland poison of *Aedes aegypti*. *Proc. Soc. Exptl. Biol. Med.*, New York **26** 1929 pp. 806–809. [Dipt.]
- 1708.—Mader, L.** Ueber paläarktische Coleopteren I, II. *Ent. Anz.*, Vienna **11** 1931 pp. 19–20, 87–90, 109–112, 134–136. [Col.]
- 1709.—Mader, L.** Ueber paläarkt. Coccinelliden. *Ent. Anz.*, Vienna **11** 1931 pp. 200–202. [Col.]
- 1710.—Mader, L.** Zur Kenntnis einiger Coccinelliden. *Ent. Anz.*, Vienna **11** 1931 pp. 476–479, 3 figs. [Col.]
- 1711.—Mader, L.** Evidenz der paläarktischen Coccinelliden und ihrer Aberrationen [contd.]. *Z. Ver. Naturbeobach.*, Vienna **6** 1931 sep. pp. 169–204, 10 pls. 2 figs.
- 1712.—Mahdihassan, S.** The micro-organisms of red and yellow lac insects. *Arch. Protistenkunde*, Jena **68** 1929 pp. 613–624, 1 pl. 6 figs. [Hem.]
- 1713.—Mahdihassan, S.** Early sexual and other dimorphisms among lac insects. *Biol. Generalis*, Vienna **7** 1931 pp. 517–530, 13 figs. [Hem.]
- 1714.—Mahdihassan, S.** The first ecdysis of the lac insect (Coccid.). *Deuts. ent. Z.*, Berlin **1930** 1931 pp. 223–234, 12 figs. [Hem.]
- 1715.—Mahdihassan, S.** The last two moults of the lac insect. *Tijdschr. Ent.*, Amsterdam **74** 1931 pp. 230–244, 16 figs. [Hem.]
- 1716.—Mahdihassan, S.** The males of lac and pseudo-lac insects. *Z. wiss. Zool.*, Leipzig **138** 1931 pp. 371–385, 18 figs. [Hem.]
- 1717.—Mahdihassan, S.** Das zweite Larvenstadium der weiblichen Lackschildlaus. *Zool. Anz.*, Leipzig **94** 1931 pp. 289–304, 16 figs. [Hem.]
- 1718.—Main, H.** Further notes on *Methoca ichneumonides* (Latr.). *Essex Nat.*, Stratford **23** 1931 pp. 63–67, 1 pl. [Hym.]
- 1719.—Makalovskaya, V.** On the biometrical characteristic of the races of the Asiatic locust. [In Russian with English summary.] *Bull. Plant Prot.*, Leningrad Ent. **1** 1930 pp. 263–274. [Orth.]
- 1720.—Makino, S.** The chromosomes of *Diestrammena japonica* Karny (an Orthopteran). [In Japanese with English summary.] *Dobuts. Zasshi*, Tokyo **43** 1931 pp. 635–646, 1 pl. 5 figs.
- 1721.—Malaise, R.** Neue japanische Blattwespen. *Zool. Anz.*, Leipzig **94** 1931 pp. 201–213, 1 fig. [Hym.]
- Malaise, R.** *see* Sjöstedt et al.
- 1722.—Malenotti, E.** I coni salivari dei Pentatomidi. *Atti Accad. Agric.*, Sci. Lett. Verona (5) **9** 1931 pp. 141–148, 4 pls. [Hem.]
- 1723.—Malenotti, E.** Note sulla *Aelia acuminata* L. *Italia agric.*, Piacenza **68** 1931 no. 12 22 pp. 23 figs. [Hem.]
- 1724.—Malhotra, R. C.** Is a bee attracted to clover blossoms by odor? *J. New York Ent. Soc.* **39** 1931 pp. 273–277.
- 1725.—Mallach, N.** Beitrag zur Kenntnis der Insektenfauna Nordpersiens. *Ent. NachrBl.*, Troppau **5** 1931 pp. 81–82. [Hym., Hem.]
- 1726.—Mallach, N.** Entomologische Ergebnisse der Deutsch-Russischen Alai-Pamir-Expedition 1928 (II). 3. Hymenoptera VI. Tenthredinidae. *Mitt. zool. Mus. Berlin* **16** (1930) 1931 pp. 858–859.

1727.—Mallász, J. de. Vorbericht über neue Höhlenkäfer aus dem Komitate Hunedoara (Siebenbürgen). [In Rumanian & German.] Pub. Muzeului jud. Hunedoara, Deva 25-26 (1927-28) 1928 pp. 124-135. [Col.]

1728.—Mallász, J. v. Vorläufige Bemerkungen über Mitteilungen des Herrn Dr. C. Petri's. Pub. Muzeului jud. Hunedoara, Deva 25-26 (1927-28) 1928 pp. 146-149. [Col.]

1729.—Mallász, J. Neue Höhlenkäfer aus dem Komitate Hunedoara (Siebenbürgen, Rumanien). 1^{er} Congr. nat. Naturalistes Roumanie, Cluj 1928 1930 pp. 305-326, 5 figs. [Col.]

1730.—Malloch, J. R. Exotic Muscaridae (Diptera). XXXI-XXXV. Ann. Mag. Nat. Hist., London 1931 (10) 7 pp. 183-200, 314-340, 7 figs., 473-492, 3 figs.; (10) 8 pp. 49-70, 425-446, 6 figs.

1731.—Malloch, J. R. An African Chloropid (Dipt.) predaceous upon spiders' eggs. Ann. Mag. Nat. Hist., London (10) 8 1931 pp. 422-424, 1 fig.

1732.—Malloch, J. R. Notes on Australian Diptera. XXVII-XXIX. Proc. Linn. Soc. N.S.W., Sydney 56 1931 pp. 60-78, 273-276, 292-298, 4 figs.

1733.—Malloch, J. R. Notes on some Acalyptrate flies in the United States National Museum. Proc. U.S. Nat. Mus., Washington, D.C. 78 art. 15 no. 2858 1931 32 pp. 10 figs. [Dipt.]

1734.—Malloch, J. R. Flies of the genus *Pseudotephritis* Johnson (Diptera: Ortalidae). Proc. U.S. Nat. Mus., Washington, D.C. 79 art. 34 no. 2900 1931 6 pp.

1735.—Malloch, J. R. The Calyptrate Diptera of New Zealand. Parts V, VI. Rec. Canterbury Mus., Christchurch, N.Z. 3 1931 pp. 377-388, 4 figs.

1736.—Malloch, J. R. New Zealand Muscidae Acalyptratae. Parts VIII, IX. Rec. Canterbury Mus., Christchurch, N.Z. 3 1931 pp. 389-422, 3 pls. [Dipt.]

1737.—Malloch, J. R. Notes on New Zealand Empididae (Diptera). Rec. Canterbury Mus., Christchurch 3 1931 pp. 423-429, 1 pl.

1738.—Malloch, J. R. Diptera from the south-western United States. Paper IV. Anthomyiidae. Trans. Amer. Ent. Soc., Philadelphia 44 1918 pp. 263-319, 1 pl.

1739.—Malloch, J. R., Greene, C. T. & McAtee, W. L. District of Columbia Diptera: Rhagionidae. Proc. Ent. Soc. Washington 33 1931 pp. 213-220.

1740.—Maltbaek, J. 2der Tillaeg til Thysanoptera Danica, Danske Frynsevinger (mit beschreibung neuer Arten und Formen). Ent. Medd., Copenhagen 17 1931 pp. 369-380.

1741.—Malyshev, S. J. Lebensgeschichte der Holzbienen, *Xylocopa* Latr. (Apoidea). Z. Morph. Oekol. Tiere, Berlin 23 1931 pp. 754-809, 15 figs. [Hym.]

1742.—Manalang, C. Three new sand-flies from the Philippines. Philipp. J. Sci., Manila 45 1931 pp. 355-364, 3 figs. [Dipt.]

1743.—Manalang, C. Malaria transmission in the Philippines, V. On the maturation of the ova of *Anopheles funestus* Giles. Philipp. J. Sci., Manila 46 1931 pp. 363-369, 1 fig. [Dipt.]

1744.—Mancini, C. Gli *Eurygaster maurus* L. e *meridionalis* Peneau in Italia. Boll. Soc. ent. ital., Genoa 63 1931 pp. 11-15, 4 figs. [Hem.]

1745.—Mandl, K. Systematische Zusammenstellung einer Sammelausbeute aus Transbaikalien und dem Ussurigebeite. Wien. ent. Ztg. 48 1931 pp. 1-28, 1 fig. [Col.]

1746.—Mandl, K. Künstliche Veränderung der Farben an *Cicindela nitida* Licht. und an anderen *Cicindela*-Arten. Z. Morph. Oekol. Tiere, Berlin 22 1931 pp. 110-120. [Col.]

Mann, F. C. see Essex, Markowitz & Mann.

1747.—Manuilova, N. A. Some data on the mechanics of the growth of the caterpillars of the silk worm (*Bombyx mori* L.). [In Russian with English summary.] Rev. zool. russe, Moscow 10 no. 4 1930 pp. 45-56, 7 figs. [Lep.]

1748.—**Maran, J.** Etudes phylogéniques et systématiques sur la morphologie des ailes dans la famille des Cérambycides (Col.). [In Czech with French summary.] Sborník ent. odd. Nár. Mus. Praha 8 1930 pp. 20–50, 1 pl.

1749.—**March, A. W.** A nest of *Macrotermes barneyi* Light. Lingnan Sci. J., Canton 10 1931 pp. 495–496, 1 fig. [Isopt.]

1750.—**Marchal, P.** Le microptérisme et le dimorphisme saisonnier chez les Trichogrammes. C.R. Acad. Sci. Fr., Paris 192 1931 pp. 316–318. [Hym.]

1751.—**Marchal, P.** Parasitisme et symbiose chez les Aphides. C.R. Acad. Sci. Fr., Paris 193 1931 pp. 300–301. [Hem.]

1752.—**Marcu, O.** Ein weiterer Beitrag zur Kenntnis der Geschlechtsunterschiede der Stridulationsorgane einiger Curculioniden. Bull. Acad. Roumanie, Bucarest 13 1930 pp. 229–233, 5 figs. [Col.]

1753.—**Marcu, O.** Vergleichende Untersuchungen an den Stridulationsorgan der Cerambyciden. Bull. Acad. Roumanie, Bucarest 13 1930 pp. 234–244, 47 figs. [Col.]

1754.—**Marcu, O.** Weitere Coleopterenfunde aus der Bucovina. Bull. Acad. Roumanie, Bucarest 13 1930 pp. 248–254.

1755.—**Marcu, O.** Die Coccinelliden-Fauna der Bucovina. Bull. Acad. Roumanie, Bucarest 13 1930 pp. 260–264. [Col.]

1756.—**Marcu, O.** Weitere neue Coleopterenfunde aus der Bucovina. Bull. Acad. Roumaine, Bucarest 14 1931 pp. 109–115.

1757.—**Marcu, O.** Beiträge zur Kenntnis der Coleopteren-Fauna Bessarabiens. Bull. Acad. Roumaine, Bucarest 14 1931 pp. 116–123.

1758.—**Marcu, O.** Zur Kenntnis der Geschlechtsunterschiede der Stridulationsorgane bei Curculioniden. Bull. Acad. Roumaine, Bucarest 14 1931 pp. 124–131, 8 figs. [Col.]

1759.—**Marcu, O.** Beitrag zur Kenntnis der Tracheen der Insekten. Zool. Anz., Leipzig 93 1931 pp. 61–63, 2 figs.

1760.—**Marcu, O.** Ein neuer Beitrag zur Kenntnis der Stridulationsorgane bei Ipiden. Zool. Anz., Leipzig 94 1931 pp. 32–37, 4 figs. [Col.]

1761.—**Marcu, O.** Die Stridulationsorgane der Gattungen *Aparopion* und *Rhinastus* unter den Curculioniden. Zool. Anz., Leipzig 95 1931 pp. 331–333, 2 figs. [Col.]

1762.—**Marcu, O.** Beiträge zur Kenntnis der Stridulationsorgane der Curculionidengattungen *Rhinoscapha*, *Homalonotus* und *Dionychus*. Zool. Anz., Leipzig 97 1931 pp. 109–111, 2 figs. [Col.]

Maréchal, P. see Crèvecoeur & Maréchal.

1763.—**Marelli, C. A.** Recientes observaciones sobre los taladros del genero *Platypus* en algunos arboles del jardin zoologico. Maderil, Buenos Aires 3 no. 31 1931 pp. 5–10, 9 figs. [Col.]

1764.—**Marelli, C. A.** El gorgojo de los eycalptos hallado en la Argentina no es la especie originaria de Tasmania *Gonipterus scutellatus* Gyll. Rev. Mus. La Plata, B. Aires 30 1927 pp. 257–269; also in Mem. Jardin zool. La Plata 2 1930 pp. 60–72. [Col.]

Margabandhu, V. see Ramakrishna Ayyar & Margabandhu.

1765.—**Mariani, M.** Novità di lepidotterologia in Sicilia (Addenda). Boll. Soc. ent. ital., Genoa 63 1931 p. 23.

Markowitz, J. see Essex, Markowitz & Mann.

1766.—**Marquardt, K.** Die Gross-Schmetterlingsfauna des östlichen Hinterpommerns. Int. ent. Z., Guben 25 1931 pp. 54–56, 147–148, 161–163. [Lep.]

1767.—**Marriner, T. F.** The Cumberland *Aleurodes*. Ent. Rec., London 43 1931 pp. 21–23. [Hem.]

1768.—**Marshall, Sir G. A. K.** Curculionidae. Insects of Samoa. London, Br. Mus. (Nat. Hist.) 4 fasc. 5 1931 pp. 249–346, 31 figs. [Col.]

1769.—**Marshall, Sir G. A. K.** New species of African *Brachycerus* (Col., Curc.). Ann. Mag. Nat. Hist., London (10) 7 1931 pp. 409–424, 1 pl.

1770.—Marshall, Sir G. A. K. On new Curculionidae (Col.) from the Pacific Islands. *Ann. Mag. Nat. Hist.*, London (10) 8 1931 pp. 447-456, 5 figs.

1771.—Marshall, Sir G. A. K. New injurious Curculionidae (Col.). *Bull. Ent. Res.*, London 22 1931 pp. 417-421, 1 pl.

1772.—Marshall, Sir G. A. K. New Indian Curculionidae (Col.). *Ind. For. Rec.*, Calcutta 16 1931 pp. 263-278, 1 pl.

Marshall, Sir G. A. K. *see* Schenkling & Marshall.

1773.—Marshall, J. Notes on chemotropic responses of certain insects. 61st Ann. Rep. Ent. Soc. Ontario 1930, Toronto 1931 pp. 82-84.

1774.—Marshall, J. F. & Staley, J. Stereoscopic photomicrographs of Oligocene fossil insects from the Isle of Wight. *Proc. Ent. Soc. London* 6 1931 pp. 38-40.

1775.—Martelli, G. M. Contributo alla conoscenza dell'*Aporia crataegi* L. e di alcuni suoi parassiti ed epiparassiti. *Boll. Lab. Zool. Portici* 25 1931 pp. 171-241, 14 figs. [Lep.]

1776.—Martin, L. Ueber insuläre Parallelförmigkeit im Genus *Papilio*. *Mitt. münchn. ent. Ges.*, Munich 21 1931 pp. 1-13. [Lep.]

1777.—Martin, L. M. & Ingham, C. H. An annotated list of the diurnal Lepidoptera of Huntingdon Lake region, Fresno County, California. *Bull. S. Calif. Acad. Sci.*, Los Angeles 29 (1930) 1931 pp. 115-134, 1 map.

1778.—Martin, R. Pseudo-Névroptères et Névroptères. *Paris, Hist. nat. France* [?] 1931 220 pp. 129 figs.

1779.—Martin, R. S. Two new *Euphyllura* (Homoptera, Chermidae). *J. Kansas Ent. Soc.*, McPherson 4 1931 pp. 68-70.

1780.—Martini, E. Culicidae. In LINDNER *Flieg. Palaeark. Reg.* 11 & 12 1931 pp. 321-398, 70 figs.

1781.—Martini, E. *Dixa*-Larven der Deutschen Limnologischen Sunda-Expedition. *Arch. Hydrobiol.*, Stuttgart Suppl. 9 1931 pp. 199-204, 4 figs. [Dipt.]

1782.—Martini, E. Die Rassenfrage bei *Anopheles maculipennis*. Ein kritisches Sammelreferat. *Arch. Schiffsu. Tropenhyg.*, Leipzig 35 1931 pp. 707-733. [Dipt.]

1783.—Martini, E. Ueber die Flugweite der Anophelen. *C.R. 2^e Congr. internat. Paludisme Alger* 1930 1 1931 pp. 226-241. [Dipt.]

1784.—Martini, E. Die Ausbeute der deutschen Chaco-Expedition 1925-26.—Diptera. XXV. Culicidae. *Konowia*, Vienna 10 1931 pp. 116-120.

1785.—Martini, E. Ueber einige südamerikanische Culiciden. *Rev. Ent.*, São Paulo 1 1931 pp. 199-219, 1 pl. [Dipt.]

1786.—Martini, E. Zur Terminologie in der Lehre von Massenwechsel der Organismen. *Z. angew. Ent.*, Berlin 18 1931 pp. 440-459.

1787.—Martini, E. Konvergenzen und Korrelationen im engen systematischen Raum. *Zool. Anz.*, Leipzig 93 1931 pp. 239-262, 1 fig. [Dipt.]

1788.—Martynov, A. Trichoptera. [In Russian with German summary.] *Abh. Pamir Exped.* 1928, Leningrad 2 1930 pp. 79-81.

1789.—Martynov, A. Palaeozoic insects from the Kuznetzk Basin. [In Russian with English summary.] *Bull. Geol. Prosp. Serv.*, Moscow 49 1930 no. 10 pp. 73-111, 11 figs. [Fossil.]

1790.—Martynov, A. Permian fossil insects from Tikhije Gory. Order Miomoptera. *Bull. Acad. Leningrad* 1930 pp. 951-975, 1115-1134, 27 figs.

1791.—Martynov, A. On some new remarkable Odonata from the Permian of Archangelsk district. [In English with Russian summary.] *Bull. Acad. Leningrad* 1931 no. 1 pp. 141-147, 3 figs. [Fossil.]

1792.—Martynov, A. New Permian insects from Tikhije Gory, Kazan Province. I, II. *Trav. Mus. géol. Acad. Sci. U.S.S.R.*, Leningrad 6 1930 pp. 69-86, 6 figs.; 8 1931 pp. 149-212, 29 figs. [Fossil.]

1793.—Martynov, A. Sur le subordre nouveau Permanisoptera nov. nom. (Odonata) et sa position systématique. [In Russian.] *C.R. Acad. Sci. U.R.S.S.*, Leningrad (A) 1931 pp. 246-247. [Fossil.]

1794.—Martynov, A. B. Report on a collection of insects of the order Trichoptera from Siam and China. *Proc. U.S. Nat. Mus.*, Washington, D.C. 79 art. 25 no. 2891 1931 20 pp. 4 pls.

1795.—Masaitis, A. J. On the morphology of the *Selatosomus spretus* Mannh. larvae. [In Russian with English summary.] Plant Prot., Leningrad 8 1931 pp. 293–298, 4 figs. [Col.]

1796.—Masi, L. Su due specie inedite di *Phaenopria* (Hym. Proctotr. Diapriidae). Boll. Soc. ent. ital., Genoa 63 1931 pp. 69–72.

1797.—Masi, L. Omeosi unilaterale nelle ali di un cinipide. Boll. Soc. ent. ital., Genoa 63 1931 pp. 112–114. [Hym.]

1798.—Masi, L. Sur quelques Brachymeriinae de l'Égypte (Hymen. Chalc.). Bull. Soc. ent. Égypte, Cairo 1930 1931 pp. 214–218.

1799.—Masi, L. Contributo alla sistematica degli Eunotini (Hym. Chalc.). Eos, Madrid 7 1931 pp. 411–459, 6 figs.

Massa, Brasavola de *see* Brasavola de Massa.

1800.—Mathews, W. H. Contributions to the fauna of Rottnest Island. No. vi. Notes on the Odonata and Neuroptera. J. Roy. Soc. W. Aust., Perth 16 1930 pp. 41–44.

1801.—Matsumura, S. Monographie der Cercopiden Japans. J. Sapporo Agric. Coll. 2 1903 pp. 15–52. [Hem.]

1802.—Matsumura, S. Die Wasser-Hemipteren Japans. J. Sapporo Agric. Coll. 2 1905 pp. 53–56, 1 pl.

1803.—Matsumura, S. Illustrated Thousand Insects of Japan. Hemiptera, Diptera. Tokyo 2 1905 pp. 1–163, 17 pls.

1804.—Matsumura, S. Illustrated Thousand Insects of Japan. Tokyo. Suppl. 1 1908 pp. 1–151, 16 pls.; Suppl. 2 1909 pp. 1–144, 13 pls. [Lep.]

1804a.—Matsumura, S. The illustrated thousand insects of Japan. Vol. I (Rhynchota) 98 & 38 pp. 16 pls.; Vol. II (Hymenoptera) 98 & 89 pp. 18 pls. Tokyo, 1930.

1805.—Matsumura, S. Descriptions of some new genera and species from Japan, with a list of species of the family Cochlidiionidae. Insecta matsum., Sapporo 5 1931 pp. 101–116, 1 pl. [Lep.]

1806.—Matsumura, S. A new species and a new genus of Noctuidae from Japan. Insecta matsum., Sapporo 5 1931 pp. 210–211, 1 fig. [Lep.]

1807.—Matsumura, S. A list and new species of Aegeriidae from Japan. Insecta matsum., Sapporo 6 1931 pp. 4–12, 1 pl. [Lep.]

1808.—Matsumura, S. New species and new forms of butterflies from Japan. Insecta matsum., Sapporo 6 1931 pp. 43–45, 2 figs. [Lep.]

1809.—Matsumura, S. A revision of the Palaearctic and Oriental Typhlocybid-genera with descriptions of new species and new genera. Insecta matsum., Sapporo 6 1931 pp. 55–91, 2 pls. 6 figs. [Hem.]

1810.—Matsumura, S. Six thousand illustrated insects of Japan-Empire. [In Japanese.] Tokyo, 1931 pp. ii, iii, iii, 23, 1497 + 191, 2, 6, 10 pls. many figs.

1811.—Matsushita, M. On a new subspecies and an unrecorded species of Cerambycidae injurious to trees. [In Japanese with description in German.] Insect Wld., Gifu 35 1931 pp. 376–378. [Col.]

1812.—Matsushita, M. Einige neue Bockkäfer aus Formosa. Mitt. zool. Mus. Berlin 17 1931 pp. 399–405. [Col.]

1813.—Matsushita, M. Zehn neue Cerambyciden-Arten und eine neue Gattung aus Japan. Trans. Sapporo Nat. Hist. Soc. 12 1931 pp. 42–48, 4 figs. [Col.]

1814.—Maulik, S. Papers on Malayan aquatic biology. XII. Byrrhidae, Hydrophilidae, Chrysomelidae. J. F.M.S. Mus., Kuala Lumpur 16 1931 pp. 505–506. [Col.]

1815.—Maulik, S. On the larva of the poisonous Chrysomelid beetle of N'gamiland. Proc. Zool. Soc. London 1931 pp. 127–131, 5 figs. [Col.]

1816.—Maulik, S. On the structure of larvae of Hispine beetles. Proc. Zool. Soc. London 1931 pp. 1137–1162, 16 figs. [Col.]

1817.—Maulik, S. Coleoptera, Chrysomelidae, Eumolpinae, Galerucinae and Halticinae. Percy Sladen Trust Expedition to the Indian Ocean in 1905. Trans. Linn. Soc. London (2) Zool. 19 1931 pp. 241–260, 13 figs.

Mayne, B. *see* Roy & Mayne.

1818.—Mazetier, G. Contribution à la connaissance de la faune des Coléoptères normands et spécialement du département du Calvados. Bull. Soc. linn. Normand., Caen (8) **2** 1929 (1930) Trav. Orig. pp. 24–64; (8) **3** 1931 pp. 27–40.

1819.—Maziarski, S. Sur le tissu musculaire des insectes. III. Les réseaux musculaire (myosyndesmium) des gaines ovariennes des Coléoptères. Bull. int. Acad. Cracovie **1930** 1930 B pp. 657–690, 2 pls. 1 fig.

1820.—Medvedev, S. Scarabaeidae (Coleoptera). [In Russian with German summary.] Abh. Pamir Exped. 1928, Leningrad **2** 1930 pp. 55–58, 1 fig.

Medvedev, S. *see* Semenov-Tian-Shanski & Medvedev.

1821.—Meier, N. Résultats scientifiques des expéditions entomologiques du Musée zoologique dans la région d'Oussouri. I. Hymenoptera, Ichneumonidae. [In Russian with German descriptions.] Annu. Mus. zool. Acad. Leningrad **31** 1930 pp. 165–180, 4 figs.

1822.—[Meier] Meyer, N. F. Revision der Tribus Anomalchini (Hymenoptera. Ichneumonidae). Konowia, Vienna **10** 1931 pp. 3–14, 4 figs.

1823.—Melin, D. Hemiptera from South and Central America. II. (Contributions to a revision of the genus *Phymata*.) Ark. Zool., Stockholm **22A** 1931 no. 1 40 pp. 7 pls.

1824.—Mell, R. Die Trockenzeitform als Hemmungserscheinung (*Diagora nigrivena* (Leech) als Trockenzeitform von *Hestina assimilis* L.). Biol. Zentralbl., Leipzig **51** 1931 pp. 187–194, 2 figs. [Lep.]

1825.—Mell, R. Undescribed Lepidoptera from China. III. (Notodontidae). Lingnan Sci. J., Canton **9** 1931 pp. 377–380.

1826.—Mell, R. Field notes on Cicindelidae (Tiger beetles) of Kwangtung. Lingnan Sci. J., Canton **10** 1931 pp. 287–293. [Col.]

1827.—Mell, R. Zur Kenntnis sudchinesischer Catocalinen (s. str.). (Lep.). Mitt. deuts. ent. Ges., Berlin **2** 1931 pp. 85–91, 1 pl. 2 figs.

1828.—Mell, R. & Heinrich, G. Beiträge zur Fauna sinica IX. Zur Biologie und Systematik der süd-

chinesischen Ichneumoninae Ashm. (Fam. Ichneumonidae Hym.). Z. angew. Ent., Berlin **18** 1931 pp. 371–403, 3 figs.

1829.—Mello, F. de. Nature et identification des petits flagellés de l'intestin de *Coptotermes heimi* Wasm. C.R. Soc. Biol., Paris **107** 1931 pp. 1185–1186. [Isopt.]

1830.—Melnikov, P. Wie soll der Falter in der Tüte liegen. Int. ent. Z., Guben **25** 1931 pp. 137–140, 4 figs. [Lep.]

1831.—Melvin, R. A quantitative study of copper in insects. Ann. Ent. Soc. Amer., Columbus **24** 1931 pp. 485–488.

1832.—Melzer, J. Longicorneos americanos, principalmente do Brasil, novos ou pouco conhecidos (Coleoptera, Cerambycidae). III. Arch. Inst. biol., São Paulo **4** 1931 pp. 51–82, 6 pls. 1 fig.

1833.—Melzer, J. Cerambycideos neotropicos, principalmente do Brasil. Rev. Ent., São Paulo **1** 1931 pp. 1–15, 8 figs. [Col.]

1834.—Melzer, J. Novos Cerambycideos neotropicos. Rev. Ent., São Paulo **1** 1931 pp. 191–199, 6 figs. [Col.]

1835.—Mendes, L. O. T. Uma nova especie do genero *Eucalymnatus* (Homopt.—Coccidae). Rev. Ent., São Paulo **1** 1931 pp. 395–400, 14 figs.

1836.—Menozi, C. Spedizione del barone Raimondo Franchetti in Danalia. Hymenoptera—Formicidae. Ann. Mus. Stor. nat. Genova **55** 1931 pp. 154–156, 1 fig.

1837.—Menozi, C. Contribuzione alla conoscenza del Microgenton di Costa Rica. III. Boll. Lab. Zool. Portici **25** 1931 pp. 259–274, 8 figs. [Hym.]

1838.—Menozi, C. Contributo alla conoscenza dei Dermatteri della Repubblica Dominicana. Boll. Lab. Zool. Portici **25** 1931 pp. 321–326, 5 figs.

1839.—Menozi, C. Revisione del genere *Epimyrma* Em. (Hymen. Formicidae) e descrizione di una specie inedita di questo genere. Mem. Soc. ent. ital., Genoa **10** 1931 pp. 36–53, 6 figs.

1840.—Menozi, C. Qualche nuova Formica di Costa Rica (Hym.). Stettin. ent. Ztg. 92 1931 pp. 188–202, 7 figs.

1841.—Menozi, C. Contributo alla corologia degli Emitteri Eterotteri della Venezia tridentina. Studi trentini, Trento 12 1931 pp. 199–209. [Hem.]

1842.—Menzel, R. Coccinellidenlarven als Wachsproduzenten. Mitt. schweiz. ent. Ges., Berne 15 1931 pp. 44–46, 1 fig. [Col.]

1843.—Méquignon, A. Notes synonymiques sur quelques Elatérides (Col.). Bull. Soc. ent. Fr., Paris 1931 pp. 207–208.

1844.—Mer, G. Notes on the bionomics of *Anopheles elutus*, Edw. (Dipt., Culic.). Bull. Ent. Res., London 22 1931 pp. 137–145, 2 figs.

Mer, G. see Kligler & Mer.

1845.—Mercet, R. G. Afelinidos paleárticos (Hym. Chalc.) 7^a & 8^a notas. Bol. Soc. esp. Hist. nat., Madrid 31 1931 pp. 559–566, 7 figs.; 659–669, 13 figs.

1846.—Mercet, R. G. Le genre *Encarsia* et description d'*Encarsia indifferens* nov. sp. d'Egypte (Hymen. Chalc.: Aphelinidae). Bull. Soc. ent. Egypte, Cairo 1930 1931 pp. 220–223, 2 figs.

1847.—Mercet, R. G. Les genres *Prochiloneurus* et *Achrysopophagus* (Hymen. Chalcididae). Bull. Soc. ent. Egypte, Cairo 1930 1931 pp. 224–228, 2 figs.

1848.—Mercet, R. G. Afelinidos paleárticos (Hym. Chalc.) 6^a nota. Eos, Madrid 7 1931 pp. 5–7.

1849.—Mercet, R. G. Notas sobre Afelinidos (Hym. Chalc.) 4^a nota. Eos, Madrid 7 1931 pp. 395–410, 5 figs.

1850.—Mercier, L. Phoridae (Diptères, Aschiza, Hypocera) du département du Calvados. Bull. Soc. linn. Normandie, Caen (8) 3 1931 pp. 50–56.

1851.—Mercier, L. Les soies hypopleurales d'*Orygma luctuosa* Meig. (Myodaire inférieure) et le principe de la connexion des organes. C.R. Acad. Sci. Fr., Paris 192 1931 pp. 106–108, 2 figs. [Dipt.]

1852.—Mesnil, L. Contribution à l'étude de trois coléoptères nuisibles aux céréales. Ann. Epiphyt., Paris 16 1931 pp. 190–208, 5 pls. 7 figs.

1853.—Metcalf, C. L. The mouth parts of insects. Trans. Illinois Acad. Sci., Springfield 21 1929 pp. 109–135, 15 figs.

1854.—Metz, C. W. Chromosomal differences between germ cells and soma in *Sciara*. Biol. Zbl., Leipzig 51 1931 pp. 119–124, 1 fig. [Dipt.]

1855.—Metz, C. W. Unisexual progenies and sex determination in *Sciara*. Quart. Rev. Biol., Baltimore 6 1931 pp. 306–312, 2 figs. [Dipt.]

1856.—Metz, C. W. & Schmuck, M. L. Studies on sex determination and the sex chromosome mechanism in *Sciara*. Genetics, Menasha 16 1931 pp. 225–253. [Dipt.]

Metz, C. W. see Schmuck & Metz.

1857.—Meyer, E. Beobachtungen und Untersuchungen zur Biologie und Bekämpfung der Forleule. Z. angew. Ent., Berlin 18 1931 pp. 1–56, 24 figs. [Lep.]

1858.—Meyer, E. Ueber den Blutkreislauf der Ephemeriden. Z. Morph. Oekol. Tiere, Berlin 22 1931 pp. 1–52, 38 figs.

Meyer, N. see Meier.

1859.—Meyer, P. F. Untersuchungen über die Aufnahme pflanzlicher Farbstoffe in den Körper von Lepidopterenlarven. Z. vergl. Physiol., Berlin 11 1930 pp. 173–209, 8 figs.

1860.—Meyer, R. Zur Kenntnis der Bienenfauna von Neuseeland. Konowia, Vienna 10 1931 pp. 248–254, 2 figs. [Hym.]

1861.—Meyrick, E. Macro-Lepidoptera from South Chile and Argentina. An. Mus. nac. Hist. nat. Buenos Aires 36 1931 pp. 377–415.

1862.—Meyrick, E. Exotic Microlepidoptera. Marlborough 4 1931 pp. 33–192.

1863.—Meyrick, E. Reports of an expedition to Brazil and Paraguay in 1926–7, supported by the trustees of the Percy Sladen Memorial Fund and the executive committee of the Carnegie Trust for Scotland. Microlepidoptera. J. Linn. Soc., London 37 Zool. 1931 pp. 266–284.

1864.—Meyrick, E. Die Lepidoptera der Deutschen Gran-Chaco-Expedition 1925–26. III. Pterophoridae—Tineidae. Mitt. münchn. ent. Ges., Munich 21 1931 pp. 37–40.

1865.—Meyrick, E. Notes on New Zealand Lepidoptera. Rec. Canterbury Mus., Christchurch, N.Z. 3 1931 pp. 367–369.

1866.—Meyrick, E. New species of New Zealand Lepidoptera. Trans. Proc. N.Z. Inst., Wellington 62 1931 pp. 92–97.

Meyrick, E. *see* Caradja.

1867.—Mezzadrolì, G. & Vareton, E. Influenza di terre radioattive italiane sullo sviluppo dei bachi da seta. Atti R. Accad. naz. Lincei, Rend. Cl. sci. fis. mat. nat., Rome 14 1931 pp. 225–227. [Lep.]

1868.—Michael, O. Neue *Agrias*. Ab. vom mittleren Amazonas. Ent. Z., Frankfurt a. M. 44 1931 pp. 309–312. [Lep.]

1869.—Michael, O. Ueber einige neue Tagfalteraberrationen vom Amazonasgebiet. Ent. Z., Frankfurt a. M. 45 1931 pp. 152–155, 163–167, 1 pl. 3 figs. [Lep.]

1870.—Michailoff, A. S. Ueber die Saison-Variabilität der Honigbiene. Arch. Bienenkunde, Neumünster i. Holstein 8 1927 pp. 304–312, 2 figs. [Hym.]

1871.—[Michailoff] Michailoff, A. S. On two mutations in the honey bees. [In Russian with English summary.] Oput. Paseka [? Tula], 1930 pp. 291–293. [Hym.]

1872.—Michailoff, A. S. Ueber der Vererbung der Weissäugigkeit bei der Honigbiene (*Apis mellifera*). Z. indukt. Abstamm. Vererb. Lehre, Leipzig 59 1931 pp. 190–202, 9 figs. [Hym.]

1873.—Michal, K. Oszillationen im Sauerstoffverbrauch der Mehlwurmlarven (*Tenebrio molitor*). Zool. Anz., Leipzig 95 1931 pp. 65–75, 4 figs. [Col.]

1874.—Michalk, O. Anomalie in der Antennenbildung bei *Lygaeiden* (Hem. Het.). Z. wiss. Insekt Biol., Berlin 26 1931 pp. 66–73, 4 figs.

1875.—Michalk, O. Zur Technik der Nahrungsaufnahme bei *Troilus luridus* F. (Hem. Het.). Z. wiss. Insekt Biol., Berlin 26 1931 pp. 138–140, 4 figs.

1876.—Micheli, L. Note biologiche e morfologiche sugli imenotteri. Atti Soc. ital. Milano 70 1931 pp. 19–28, 3 figs.

1877.—Middleton, W. A new species of sawfly of the subgenus *Zadiprion* with a description of the male of *N. (Z.) vallicola* Roh. and a key to the species of the subgenus. Proc. Ent. Soc. Washington 33 1931 pp. 165–170. [Hym.]

1878.—Middleton, W. Two new species of sawflies of the subgenus *Neodiprion*. Proc. Ent. Soc. Washington 33 1931 pp. 171–176. [Hym.]

Mikhailoff *see* Michailoff.

1879.—Mikhin, B. N. Die Struktur des Vorderdarms der Seidenraupen (*Bombyx mori*). [In Russian with German summary.] Arb. Moskau. ForschSta. Seide u. Seidenraupenzucht 1 1926 no. 2 30 pp. 1 pl. [Lep.]

1880.—Mikulski, J. Ueber einige für Polen neue Eintagsfliegen-Arten (Ephemeroptera). Fragm. faun. Mus. zool. polon., Warsaw 1 1931 pp. 323–325, 1 fig.

1881.—Miles, H. W. Growth in the larvae of Tenthredinidae. J. Exp. Biol., London 8 1931 pp. 355–364. [Hym.]

1882.—Miles, H. W. On the garden pebble moth, *Pionea forficalis* L. North Western Nat., Arbroath 6 1931 pp. 200–207, 2 pls. [Lep.]

1883.—Miller, F. W. A progress report on an investigation of the egg-laying habits of *Aedes sylvestris*. Proc. 17th Ann. Mtg. New Jersey Mosq. Exterm. Ass. 1930, New Brunswick 1930 pp. 105–111. [Dipt.]

1884.—Miller, F. W. Study of the reproductive system of the male and female (oviparous) Cocklebur Aphid. Proc. Pennsylvania Acad. Sci., Harrisburg 5 1931 pp. 75–79, 10 figs. [Hem.]

1885.—Miller, J. M. High and low lethal temperatures for the western pine beetle. J. Agric. Res., Washington 43 1931 pp. 303–321, 3 figs. [Col.]

1885a.—Miller, N. C. E. Two new species of Malayan Rhynchota. Bull. Ent. Res., London 22 1931 pp. 195–197, 3 figs. [Hem.]

1886.—Miller, N. C. E. Larval Heteroptera secreting an obnoxious fluid from the thorax. *Ent. Mon. Mag.*, London **67** 1931 pp. 54–55.

1887.—Miller, N. C. E. The bionomics of some Malayan Rhynchota (Hemiptera-Heteroptera). *Sci. Ser. Dept. Agric. S.S. & F.M.S., Kuala Lumpur* no. 5 1931 142 pp. 123 figs.

1888.—Miller, N. C. E. *Coccus (Lecanium) viridis* Green, the green scale of coffee. *Sci. Ser. Dept. Agric. S.S. & F.M.S., Kuala Lumpur* no. 7 1931 pp. 17–29, 5 figs. [Hem.]

Mills, A. S. *see* Leonard & Mills.

1889.—Mills, H. B. New Nearctic Collembola. *Amer. Mus. Nov.*, New York no. 464 1931 11 pp. 27 figs.

1890.—Milne, L. J. Three new Canadian *Prophryganea* (Phryganeidae, Trichoptera). *Canad. Ent., Orillia* **63** 1931 pp. 228–232, 2 pls.

Mimeur, J. M. *see* Lépiney & Mimeur.

1891.—Minkiewicz, R. L'intéressant comportement des mâles de *Bembex*. *Polsk. Pismo ent., Lemberg* **10** 1931 pp. 8–17. [Hym.]

1892.—Minnich, D. E. The chemical sensitivity of the legs of the blow-fly, *Calliphora vomitoria* Linn., to various sugars. *Z. vergl. Physiol.*, Berlin **11** 1929 pp. 1–55, 11 figs. [Dipt.]

1893.—Minnich, D. E. The sensitivity of the oral lobes of the proboscis of the blow-fly, *Calliphora vomitoria* Linn., to various sugars. *J. Exp. Zool.*, Philadelphia **60** 1931 pp. 121–139, 3 figs. [Dipt.]

1894.—Miram, E. Beitrag zur Kenntnis der Orthopterenfauna der nördlichen Polarzone mit Berücksichtigung der Dermapteren und Blattoideen. *Zool. Anz., Leipzig* **97** 1931 pp. 37–46, 8 figs.

1895.—Misra, A. B. On the anatomy of the larva of *Laccifer lacca*, Kerr (Hem. Coccidae). *Bull. Ent. Res.*, London **22** 1931 pp. 297–306, 6 figs.

1896.—Misra, A. B. On the internal anatomy of the female lac insect, *Laccifer lacca* Kerr (Homoptera: Coccidae). *Proc. Zool. Soc. London* **1931** pp. 297–323, 10 pls.

1897.—Misra, A. B. On the internal anatomy of the male lac insect, *Laccifer lacca* Kerr (Homoptera, Coccidae). *Proc. Zool. Soc. London* **1931** pp. 1359–1381, 11 figs.

1898.—Mitterberger, K. Die Nahrungspflanzen der heimischen *Nepticula*-Arten (Mikrolep.). *Ent. Rdsch.*, Stuttgart **48** 1931 pp. 6–8, 16–19, 28–30, 53–55, 72–74, 86–89.

1899.—Mitterberger, K. Die Arten der Gattung *Ornix* Z. um Steyr in Oberösterreich. *Z. öst. EntVer.*, Vienna **16** 1931 pp. 22–25, 29–31. [Lep.]

1900.—Miwa, Y. A systematic catalogue of Formosan Coleoptera. *Rep. Dept. Agric., Govt. Res. Inst.*, Taihoku **55** 1931 359 pp.

1901.—Miwa, Y. Elateridae of Formosa (V). *Trans. Nat. Hist. Soc. Formosa, Taihoku* **21** 1931 pp. 72–98. [Col.]

1902.—Miwa, Y. Supplementary notes on the Elaterid fauna of Loo-Choo (Coleoptera). *Trans. Nat. Hist. Soc. Formosa, Taihoku* **21** 1931 pp. 259–261.

1903.—Miwa, Y. A study on the Lucanid Coleoptera from the Japanese Empire I. [In Japanese.] *Trans. Nat. Hist. Soc. Formosa, Taihoku* **21** 1931 pp. 315–325, 6 figs.

1904.—Miwa, Y. H. Sauter's Formosa-Ausbeute (Elateridae II). *Wien. ent. Ztg.* **47** 1931 pp. 205–208. [Col.]

Miyahara, M. *see* Kondo & Miyahara.

1905.—Mohr, C. Correlation of host-plant and color pattern of *Rhodobaenus tredecimpunctatus* (Ill.) (Coleoptera, Rhynchophoridae). *Trans. Illinois Acad. Sci., Springfield* **24** 1931 pp. 226–227, 1 fig.

Mohr, Van Der Meer *see* Van Der Meer Mohr.

Mokłowski, A. *see* Heller & Mokłowski.

1906.—Molitor, A. Neuere Beobachtungen und Versuche mit Grabwespen. *Biol. Zbl., Leipzig* **51** 1931 pp. 412–424. [Hym.]

1907.—Molitor, A. Aus der Praxis des Käfersammlers. *Koleopt. Rdsch.*, Vienna **17** 1931 pp. 56–83, 4 figs.; 173–184.

1908.—Moltrecht, A. Ueber die geographische Verbreitung der Macrolepidopteren des Ussuri- und Amur-Gebietes. [In Russian with German summary.] *Izv. State Geogr. Soc., Vladivostock* 3 (xx) no. 2 1929 pp. 1-70, 1 map.

Monguillon, E. *see* Poisson & Monguillon.

1909.—Montalenti, G. L'origine e la funzione della membrana peritrofica dell'intestino degli insetti. *Boll. Ist. zool. Univ. Roma, Livorno* 8 1930 pp. 36-64, 2 figs.

1910.—Monte, O. Os nomes vulgares dos insectos do Brasil. Coordenados alfabeticamente, com classificação systematica, dados biologicos e seus valores economicos. *Almanak agric. brasil., São Paulo* 20 (1931-32) 1931 pp. 273-293, 16 figs.

1911.—Montgomery, R. W. Notes on some butterflies of north-eastern Georgia. *Ent. News, Philadelphia* 42 1931 pp. 109-111. [Lep.]

1912.—Montgomery, B. E. Records of Indiana dragonflies. V. 1930. *Proc. Indiana Acad. Sci., Indianapolis* 40 1931 pp. 347-349. [Odon.]

1913.—Montgomery, B. E. & R. W. Records of Indiana Coleoptera. i. Cicindelidae. *Proc. Indiana Acad. Sci., Indianapolis* 40 1931 pp. 357-359.

1914.—Montgomery, R. W. Preliminary list of the butterflies of Indiana. *Proc. Indiana Acad. Sci., Indianapolis* 40 1931 pp. 351-355. [Lep.]

1915.—Monzen, K. On the Japanese Cynipidae. [In Japanese.] *Oyo-Dobuts. Zasshi, Tokyo* 3 1931 pp. 192-200. [Hym.]

1916.—Mordvilko, A. C. Les Aphidiens de la Yakoutie. [In Russian.] *Annu. Mus. zool. Acad. Leningrad* 32 1931 pp. 289-291. [Hem.]

1917.—Moreira, C. Contribuição para o conhecimento dos insectos Dermapteros do Brasil. *Rev. Ent., São Paulo* 1 1931 pp. 257-265, 6 figs.

1918.—Moretti, G. Sulla morfologia e biologia di forma larvale e ninfa della ssettio *Tanytarsus genuinus-inermipes* gruppo corrispondente ad un imago del g. *Microspectra* (Kieff.). *Atti Soc. ital. Milano* 70 1931 pp. 168-180, 3 pls. [Dipt.]

1919.—Morgan, A. H. & Grierson, M. C. The functions of the gills in burrowing mayflies (*Hexagenia recurvata*). *Anat. Rec., Philadelphia* 51 1931 suppl. p. 79. [Ephemeropt.]

1920.—Morgan, A. H. & O'Neil, H. W. The function of the tracheal gills in larvae of the caddis fly, *Macronema zebratum* Hagen. *Physiol. Zool., Chicago* 4 1931 pp. 361-379, 1 pl. 4 figs. [Trichopt.]

1921.—Mori, T. Cicadas of Korea. [In Japanese.] *J. Chosen Nat. Hist. Soc.* 12 1931 pp. 10-24, 2 pls. [Hem.]

1922.—Morison, G. D. A new Thripid (Thysanoptera) from South Australia. *Bull. Ent. Res., London* 22 1931 pp. 245-248, 3 figs.

1923.—Morley, C. New Oxyura from Britain. *Entomologist, London* 64 1931 pp. 14-16. [Hym.]

1924.—Morley, C. A synopsis of the British Hymenopterous family Cynipidae. *Entomologist, London* 64 1931 pp. 150-153, 183-186, 206-210, 248-250, 1 fig.

1925.—Morse, M. The external morphology of *Chrysopa perla* L. (Neuroptera: Chrysopidae). *J. New York Ent. Soc.* 39 1931 pp. 1-36, 4 pls.

1926.—Morton, K. J. *Hemerobius perelegans* Stephens: a good species. *Entomologist, London* 64 1931 pp. 197-201, 1 pl. 6 figs. [Neur.]

1927.—Mosely, M. E. The dry-fly fisherman's entomology. London, Routledge & Sons 1921 xx + 109 pp. 16 pls. 43 figs.

1928.—Mosely, M. E. The identity of *Leuctra carinthiaca*, Kempny, ♂ (Insecta: Plecoptera). *Ann. Mag. Nat. Hist., London* (10) 7 1931 pp. 341-343, 1 pl.

1929.—Mosely, M. E. The genus *Diplectronella*, Ulmer (Insecta: Trichoptera). *Ann. Mag. Nat. Hist., London* (10) 8 1931 pp. 195-205, 13 figs.

1930.—Mosely, M. E. Trichoptera and Ephemeroptera of British Guiana, with special reference to the Oxford University Expedition to British Guiana, 1929. *Entomologist, London* 64 1931 pp. 169-170.

1931.—Mosely, M. E. New Corsican Trichoptera. *Entomologist, London* 64 1931 pp. 253-254.

1932.—Mosely, M. E. Some new Trichoptera from Africa and British Guiana. *Trans. Ent. Soc. London* **79** 1931 pp. 545-551, 21 figs.

1933.—Moszynska, M. Les zoocécidies des arbres et arbustes de la presqu'île de Hel. [In Polish with French summary.] *Kosmos, Lemberg* **55** 1930 pp. 273-292.

1934.—Moulton, D. A new *Aeolothrips* from Nevada with notes on three other species found in California. *Pan-Pacific Ent., San Francisco* **7** 1931 pp. 122-123. [Thysanopt.]

1935.—Moulton, D. An interesting new California Thrips. *Pan-Pacific Ent., San Francisco* **7** 1931 pp. 173-174. [Thysanopt.]

1936.—Moulton, D. & Steinweden, J. B. A new *Taeniothrips* on *Gladiolus*. *Canad. Ent., Orillia* **63** 1931 pp. 20-21, 1 fig. [Thysanopt.]

1937.—Muesebeck, C. F. W. Descriptions of a new genus and eight new species of Ichneumon-flies with taxonomic notes. *Proc. U.S. Nat. Mus., Washington, D.C.* **79** art. 16 no. 2882 1931 16 pp. 1 fig. [Hym.]

1938.—Mühlen, M. von zur & Schneider, G. Der See Wirzjerw in Livland. *Biologie und Fischerei. Arch. Naturk. Ostbalt., Dorpat* (2) **14** 1920 *Biol. no.* 1 pp. 1-158, 2 maps, 10 pls. [Insects pp. 24-32.]

1939.—Muir, F. On some South American Delphacidae (Homoptera, Fulgoroidea). *Ent. Tidskr., Stockholm* **51** 1930 pp. 207-215, 13 figs.

1940.—Muir, F. New and little-known Fulgoroidea in the British Museum (Homoptera). *Ann. Mag. Nat. Hist., London* (10) **7** 1931 pp. 297-314, 11 figs.

1941.—Muir, F. The critical point of parasitism and the law of Malthus. *Bull. Ent. Res., London* **22** 1931 pp. 249-251.

1942.—Muir, F. The case of *Melitaea aurinia* Rott., its variation and fluctuations: A discussion. *Entomologist, London* **64** 1931 pp. 49-52. [Lep.]

1943.—Muir, F. A criticism of Dr. Hansen's theory of the maxillula in Hemiptera. *Ent. Mon. Mag., London* **67** 1931 pp. 51-53.

1944.—Muir, F. New and little-known Fulgoroidea from South America. *Proc. Hawaii. Ent. Soc.* 1929-30, *Honolulu* **7** 1931 pp. 469-480, 1 pl. [Hem.]

1945.—Muir, F. Descriptions and records of Fulgoroidea from Australia and the South Pacific Islands. No. 1. *Rec. Aust. Mus., Sydney* **18** 1931 pp. 63-83, 21 figs. [Hem.]

1946.—Mukerji, D. On the respiratory system of the *Cybister* larva. *Arch. Zool. exp. gén., Paris* **70** 1930 pp. 433-467, 13 figs. [Col.]

1947.—Mukerji, S. On a new species of *Culicoides* (*Culicoides clavipalpis* sp. nov.) with notes on the morphology of the mouth-parts and male terminalia of an Indian *Culicoides*. *Ind. J. Med. Res., Calcutta* **18** 1931 pp. 1051-1058, 1 pl. [Dipt.]

1948.—Mukerji, S. Lacto-chloral: a new clearing and mounting medium for the rapid observations of the microscopical structures of small insects. *Ind. J. Med. Res., Calcutta* **19** 1931 pp. 281-283.

1949.—Mukerji, S. On the morphology of the terminal segments of Psychodidae larvae and their taxonomic importance. (With a short account of the microscopic structure of the pseudo-leg of *Phlebotomus argentipes* Ann. & Brun.) *Ind. J. Med. Res., Calcutta* **19** 1931 pp. 433-446, 3 pls. 2 figs. [Dipt.]

1950.—Mukerji, S. Morphology of the pharynx of female *Culicoides* and its taxonomic importance. *Nature, London* **127** 1931 pp. 339-340, 1 fig. [Dipt.]

1951.—Mukerji, S. The process of copulation in *Phlebotomus argentipes* Ann. & Brun. *Parasitology, Cambridge* **23** 1931 pp. 443-444, 1 fig. [Dipt.]

1952.—Müller, E. Experimentelle Untersuchungen an Bienen und Ameisen. Ueber die Funktionsweisen der Stirnocellen. *Z. vergl. Physiol., Berlin* **14** 1931 pp. 348-384, 10 figs. [Hym.]

1953.—Müller, G. Cento anni di ricerche entomologiche nelle caverne della Venezia Giulia. *Arch. zool. ital., Torino* **16** 1931 pp. 630-645.

1954.—Müller, G. Un nuovo Coleottero cavernicolo del Monte Baldo. Studi trentini, Trento 9 1928 pp. 188-190, 3 figs.

1955.—Müller, G. Nuovi coleotteri cavernicoli e ipogei delle alpi meridionali e del Carso adriatico. Atti Mus. Stor. nat. Trieste 11 1931 pp. 179-205, 1 map 15 figs.

1956.—Müller, G. Di alcuni *Bembidium* della fauna italiana. Boll. Soc. ent. ital., Genoa 63 1931 pp. 34-39, 1 fig. [Col.]

1957.—Müller, G. Carabiden-Studien. Coleopt. Centralbl., Berlin 5 1931 pp. 41-78. [Col.]

1958.—Müller, G. Hemiptera-Heteroptera des Harzes. (Material zu einer Harzer Rhynchoten-Fauna.) Deuts. ent. Z., Berlin 1931 pp. 65-112, 1 pl.

1959.—Müller, G. Note sugli Histeridae della Tripolitania e Tunisia raccolti durante i viaggi organizzati da S.A. Serenissima il Principe Alessandro della Torre e Tasso. Mem. Soc. ent. ital., Genoa 10 1931 pp. 93-104. [Col.]

1960.—Müller, L. Die Formen von *Larentia truncata* Huf. und *immanata* Haw. Ent. Rdsch., Stuttgart 48 1931 pp. 112-113, 118-120, 135-137, 141-143, 162-164, 181-183, 231-234. [Lep.]

1961.—Müller, L. Divergenz oder Parallelismus zwischen den Formen von *Larentia truncata* und *immanata*. Z. öst. EntVer., Vienna 16 1931 pp. 78-81, 88-90. [Lep.]

1962.—Müller, M. Unsere Pillenwespe (*Eumenes* F.) II. Mitt. deuts. ent. Ges., Berlin 2 1931 pp. 70-75. [Hym.]

1963.—Müller, M. Ueber seltene märkische Bienen (Apid. Hym.). Mitt. deuts. ent. Ges., Berlin 2 1931 pp. 82-84.

1964.—Müller, M. Zur Biologie unserer Wollbienen (*Anthidium* F.) (Hym. Apid.). Z. wiss. InsektBiol., Berlin 26 1931 pp. 141-148.

1965.—Müller-Rutz, J. Ueber einige alte und neue *Crambus*arten. Mitt. schweiz. ent. Ges., Berne 15 1931 pp. 28-39, 1 pl. [Lep.]

1966.—Münchberg, P. Beiträge zur Kenntnis der Biologie der Odonaten Nordostdeutschlands. SitzBer. Ges. naturf. Fr. Berlin 1930 pp. 205-234.

1967.—Munro, H. K. New Trypetidae (Dipt.) from South Africa, II. Bull. Ent. Res., London 22 1931 pp. 115-126, 5 figs.

Muramatsu, A. see Kuwana & Muramatsu.

1968.—Murayama, J. Révision des familles des Ipides et Platypides (Coléoptères) de l'Île de Quelpart. Annot. zool. jap., Tokyo 13 1931 pp. 39-62, 2 pls.

1969.—Murayama, J. A contribution to the morphological and taxonomic study of larvae of certain may-beetles which occur in the nurseries of the peninsula of Korea. Bull. For. Expt. Sta. Chosen, Keijo 11 1931 108 + iv pp. 17 pls. 6 tables. [Col.]

1970.—Murayama, J. Révisions des familles des Ipides et des Platypides de Corée. J. Chosen Nat. Hist. Soc., Keijo 11 1930 pp. 6-38, 2 pls. 1 map 1 fig. [Col.]

1971.—Murayama, J. Supplementary notes on the Platypodidae of Formosa III. J. Fac. Agric. Hokkaido Imp. Univ., Sapporo 30 1931 pp. 195-203. [Col.]

1972.—Murr, L. (née Danielczick). Ueber den Geruchssinn der Mehlmotenschlupfwespe *Habrobracon juglandis* Ashmead. Zugleich Beitrag zum Orientierungsproblem. Z. vergl. Physiol., Berlin 11 1930 pp. 210-270, 14 figs. [Hym.]

1973.—Murti, B. K. The suctorial apparatus of Cicada. Half yearly J. Mysore Univ., Bangalore 3 1929 pp. 12-55, 23 figs. [Hem.]

1974.—Mutchler, A. J. Genotype designations of the genera *Hydrophilus* and *Hydrochara*. Amer. Mus. Nov., New York no. 507 1931 3 pp. [Col.]

1975.—Myers, J. G. Descriptions and records of parasitic Hymenoptera from British Guiana and the West Indies. Bull. Ent. Res., London 22 1931 pp. 267-277, 3 figs.

1976.—Myers, J. G. Observations on the insect food of the coati. Proc. Ent. Soc. London 5 1931 pp. 69-75.

1977.—Nabokoff, V. Notes on the Lepidoptera of the Pyrénées orientales and the Ariège. Entomologist, London 64 1931 pp. 255-257, 268-271.

1978.—Nadbyl, H. Dalmatiner Allerlei II. Teil. Ent. Z., Frankfurt a. M. **45** 1931 pp. 27–29, 45–48, 54–59. [Lep.]

1979.—Nadig, A. Zur Orthopteren-fauna Graubündens. Jber. naturf. Ges. Graubünden, Chur **69** (N.S.) 1931 pp. 83–149, 1 graph.

1980.—Nagano, K. & Esaki, T. Records of the earlier stages of some Japanese butterflies, i. [In Japanese.] Zephyrus, Fukuoka **3** 1931 pp. 16–27, 1 pl. [Lep.]

1981.—Nagel, P. Ein neuer Hirschkäfer (Coleopt. Lucanidae). Ann. Mus. Stor. nat. Genova **55** 1931 pp. 138–141, 1 fig.

1982.—Nägeli, A. Einige Mitteilungen über *Apterona helix* Sieb. (Lep.). Mitt. schweiz. ent. Ges., Berne **15** 1931 pp. 56–61.

1983.—Nakayama, S. On the Coccidae of Corea and their food plants. [In Japanese.] Oyo-Dobuts. Zasshi, Tokyo **3** 1931 pp. 226–229. [Hem.]

1984.—Nakazima, S. Notes on the response of the silkworm (*Bombyx mori* L.) to odors. III. On the olfactory sense of the adult moth. Bull. Miyazaki Coll. Agric. Forestry **3** 1931 pp. 129–141. [Lep.]

Nan, Yao see Yao Nan.

1985.—Narutomi, N. On the life-histories of *Athalia* spp. [In Japanese.] Oyo-Dobuts. Zasshi, Tokyo **3** 1931 pp. 190–192. [Hym.]

1986.—Nash, T. A. M. The relationship between *Glossina morsitans* and the evaporation rate. Bull. Ent. Res., London **22** 1931 pp. 383–384, 1 fig. [Dipt.]

1987.—Natori, B. On an ovo-testis found in a larva of locust, *Podisma sapporoense* Shiraki. Trans. Sapporo Nat. Hist. Soc. **12** 1931 pp. 1–5, 1 pl. [Orth.]

1988.—Navás, L. Insectos del Museo de Estocolmo. Rev. R. Acad. Madrid **24** 1928 pp. 28–39, 6 figs. [Neur., Mecopt.]

1989.—Navás, L. Muestra entomológica limnológica de Italia. Atti Congr. int. Limnol. teor. appl. in Verh. int. Ver. Limnol., Rome **4** 1929 pp. 512–515.

1990.—Navás, L. Névroptères et insectes voisins—Chine et pays environnant. Mus. Heude. Notes Ent. chinoise, Shanghai fasc. **4** 1930 pp. 1–12, 9 figs. 16

1991.—Navás, L. Algunos Insectos de Guayaquil (Ecuador). Rev. chil. Hist. nat., Santiago de Chile **34** 1930 pp. 18–19, 1 fig. [Neur., Ephemeropt.]

1992.—Navás, L. Insectos neotrópicos. Rev. chil. Hist. nat., Santiago de Chile **34** 1930 pp. 62–75, 8 figs., 299–307, 7 figs. [Neur., etc.]

1993.—Navás, L. Neurópteros del Ecuador enviados por el Prof. Francisco Campos R. Rev. chil. Hist. nat., Santiago de Chile **34** 1930 pp. 107–109, 1 fig.

1994.—Navás, L. Algunos insectos de Chile. Rev. chil. Hist. nat., Santiago de Chile **34** 1930 pp. 350–366, 6 figs. [Neur., etc.]

1995.—Navás, L. Spedizione del barone Raimondo Franchetti in Danalia. Insetti neurotteri ed affini. Ann. Mus. Stor. nat. Genova **55** 1931 pp. 147–153, 4 figs.

1996.—Navás, L. Insectos de Somalia y Eritrea (Africa). Bol. Soc. ent. Esp., Zaragoza **13** (1930) 1931 pp. 130–137, 4 figs. [Neur.]

1996a.—Navás, L. De mis últimas excursiones entomológicas (1930–1931). Bol. Soc. ent. Esp., Zaragoza **14** 1931 pp. 116–130, 4 figs. [Neur., etc.]

1997.—Navás, L. Insectos del Museo de Paris. Brotéria, Lisbon Sér. Zool., **26** 1930 pp. 120–144, 9 figs.; **27** 1931 pp. 101–113, 114–135, 21 figs. [Neur., etc.]

1998.—Navás, L. Insectos Neurópteros y afines de la Lorena (Francia). Brotéria, Lisbon Sér. Zool. **27** 1931 pp. 136–144, 1 fig.

1999.—Navás, L. Decadas de insectos nuevos. Rev. Acad. cien. Madrid **26** 1931 pp. 60–86, 14 figs. [Neur. etc.]

2000.—Navás, L. Insectos del Brasil. 4ª serie. Rev. Mus. paul., São Paulo **17** 1931 pp. 455–458, 12 figs. [Neur., Trichopt.]

2001.—Navás, L. Insecta asiatica. IV Series. Rev. russe Ent., Leningrad **24** 1930 pp. 194–196, 3 figs. [Neur. etc.]

2002.—Navás, L. Insectos de la Argentina. Rev. Soc. ent. argent., Buenos Aires 3 1931 pp. 317-324, 7 figs. [Neur. etc.]

2003.—Navás, L. Insectes du Congo Belge (Series V-VI). Rev. Zool. Bot. afr., Brussels 1931 20 pp. 257-279, 13 figs.; 21 pp. 123-144, 16 figs. [Neur. etc.]

2004.—Necheles, H. Observations on the causes of night activity in some insects. Chinese J. Physiol., Peking 1 1927 pp. 143-156.

2005.—Needham, J. G. The dragonflies (Odonata) of Hainan., Lingnan Sci. J., Canton 10 1931 pp. 223-232, 10 figs.

2006.—Needham, J. G. Additions and corrections to the manual of the dragonflies of China. Peking Nat. Hist. Bull., Peiping 5 1931 pt. 4 pp. 1-10, 1 pl. 2 figs. [Odonata.]

2007.—Negodi, G. Il dimorfismo sessuale e le correlazioni corporee esaminati con metodo biometrico sul *Lucanus cervus* L. con riguardo particolare alle variazioni di statura. Mem. Soc. ent. ital., Genoa 10 1931 pp. 105-112.

2008.—Neiswander, C. R. The sources of American corn insects. Bull. Ohio Agric. Expt. Sta., Wooster 473 1931 98 pp. 3 pls.

2009.—Nelsen, O. E. The development of the ovary in the grasshopper, *Melanoplus differentialis*. Anat. Rec., Philadelphia 51 1931 suppl. p. 76. [Orth.]

2010.—Nelsen, O. E. Life-cycle, sex differentiation, and testis development in *Melanoplus differentialis* (Acrididae, Orthoptera). J. Morph., Philadelphia 51 1931 pp. 467-526, 5 pls. 2 figs.

2011.—Nenjukov, D. V. & Tareev, A. I. The non-protein nitrogen of insect blood; its variation with diet and arsenite poisoning. [In Russian with English summary.] Bull. Plant Prot., Leningrad 3 1931 pp. 33-38.

Nenjukov, D. V. see Tareev & Nenjukov.

2012.—Netolitzky, F. Einige Regeln in der geographischen Verbreitung geflügelter Käferrassen. Biol. Zbl., Leipzig 51 1931 pp. 277-290.

2013.—Netolitzky, F. Ueber neue und alte Bembidien. Coleopt. Centralbl., Berlin 5 1931 pp. 78-81. [Col.]

2014.—Netolitzky, F. Kritisches zum Katalog der Harpalinae von Csiki (Coleopterorum Catalogus von Junk-Schenkling Pars 97 et 98). Deuts. ent. Z., Berlin 1931 pp. 153-167.

2015.—Netolitzky, F. Ueberprüfungen afrikanischer und australischer Bembidiini. (34. Beitrag zur Kenntnis der Bembidiini.) Wien. ent. Ztg. 47 1931 pp. 169-183, 2 figs. [Hym.]

Nettles, W. C. see Eddy & Nettles.

2016.—Neustetter, H. Neue *Heliconius*. Int. ent. Z., Guben 25 1931 pp. 165-174, 5 figs. [Lep.]

2018.—Nevermann, F. Beitrag zur Kenntnis der *Telephanus* (Col. Cucujidae). Stettin. ent. Z. 92 1931 pp. 102-160, 4 pls. 3 figs.; 161-187, 2 pls.

2019.—Newman, L. H. Sark Lepidoptera. Ent. Rec., London 43 1931 pp. 184-186.

2020.—Newton, H. C. F. On the so-called "olfactory pores" in the honeybee. Quart. J. Micr. Sci., London (N.S.) 74 1931 pp. 647-668, 2 pls. 5 figs. [Hym.]

2021.—Niblett, M. Some gall-causing Trypetidae. Lond. Naturalist 1930 1931 pp. 139-141. [Dipt.]

2022.—Niblett, M. Cynipid oak galls in Surrey during 1930. London Naturalist 1930 1931 pp. 141-142. [Hym.]

2023.—Niceta, F. Contributo alla tecnica per lo studio delle uova degli insetti. Boll. Lab. Zool. Bachicoltura Milano 1 1930 pp. 43-46, 1 pl. [Lep.]

2024.—Niceta, F. La partenogenesi naturale nel *Bombyx mori* L. (Studio embriologico). Boll. Lab. Zool. Bachicoltura Milano 1 1930 pp. 139-160, 6 pls. [Lep.]

2025.—Nichols, E. R. An attempt to classify species of termites from mandibles of workers and nymphs. J. Ent. Zool., Claremont 23 1931 pp. 1-2. [Isopt.]

2026.—Nicholson, A. J. Methods of photographing living insects. Bull. Ent. Res., London 22 1931 pp. 307-320, 10 pls. 5 figs.

2027.—Nicholson, C. Birds and insects. Ent. Rec., London 43 1931 pp. 87-89.

Nickels, C. B. *see* Lathrop & Nickels.

2028.—Nielsen, E. T. Quelques procédés améliorés à employer à l'étude de nids des Hyménoptères solitaires. Ent. Medd., Copenhagen 17 1931 pp. 312-318, 5 figs.

2029.—Niepelt, W. Neue Formen exotischer Lepidopteren. Int. ent. Z., Guben 24 1931 pp. 485-486, 1 pl.

2030.—Nieschulz, O. Ueber die Puppen von *Tabanus ceylonicus*, *T. minimus* und *T. fumifer*. Zbl. Bakt., Jena (2) 83 1931 pp. 120-125, 1 pl. 2 figs. [Dipt.]

2031.—Nieschulz, O. & Bos, A. Erfahrungen beim Experimentieren mit Mücken. Arch. Schiffs- u. Tropenhyg., Leipzig 35 1931 pp. 353-356, 2 figs. [Dipt.]

2032.—Nieschulz, O. & Bos, A. Ueber die Larvenentwicklung von *Culex pipiens* bei höheren Temperaturen. Z. Parasitenk., Berlin 3 1931 pp. 741-746, 1 fig. [Dipt.]

Nihat Schewket *see* Schewket.

2033.—Nitzulescu, V. Considérations sur le rôle des mandibles dans la trompe des insectes piqueurs. 6. Reun. Soc. argent. Pal. reg. Norte, Buenos Aires 1931 pp. 501-513, 14 figs.

2034.—Nitzulescu, V. Contribution à l'étude des Phlébotomes du groupe *minutus*, *P. parroti* et *P. minutus* str. sensu. Ann. Parasit. hum. comp., Paris 9 1931 pp. 111-121, 11 figs. [Dipt.]

2035.—Nitzulescu, G. & V. Essai de table dichotomique pour la classification des phlébotomes européens. Ann. Parasit. hum. comp., Paris 9 1931 pp. 122-133, 15 figs. [Dipt.]

2036.—Nitzulescu, V. Deuxième contribution à l'étude des phlébotomes du groupe *minutus*, *Phlebotomus fallax* Parrot 1921. Ann. Parasit. hum. comp., Paris 9 1931 pp. 256-260, 4 figs. [Dipt.]

2037.—Nitzulescu, V. A propos du *Phlebotomus chinensis*. Ann. Parasit. hum. comp., Paris 9 1931 pp. 261-265, 3 pls. [Dipt.]

2038.—Nitzulescu, V. Sur la présence en Yougoslavie du *Phlebotomus perniciosus* var. *tobbi* Adler, Theodor & Lourie 1930. Ann. Parasit. hum. comp., Paris 9 1931 pp. 266-270, 4 figs. [Dipt.]

2039.—Nitzulescu, V. Essai de classification des phlébotomes. Ann. Parasit. hum. comp., Paris 9 1931 pp. 271-275. [Dipt.]

Nitzulescu, V. *see* Galliard & Nitzulescu.

2040.—Nixon, G. E. J. A new British Proctotrupid of the sub-family Belytinae. Ent. Rec., London 43 1931 pp. 83-84. [Hym.]

2041.—Nixon, G. E. J. On some new South African Proctotrupoidea (Hymenoptera). Eos, Madrid 7 1931 pp. 355-382, 8 figs.

Noel, R. *see* Paillot & Noel.

2042.—Noguchi, T. Report on the researches of *Prontaspis yanonensis* Kuw. [In Japanese.] Extra Rep. Shizuoka Agric. Expt. Sta. no. 11 40 pp., no 16 28 pp. 1931. [Hem.]

Nolan, M. O. *see* Stiles & Nolan.

2043.—Noll, J. Untersuchungen über die Zeugung und Staatenbildung des *Halictus malachurus* Kirby. Z. Morph. Oekol. Tiere, Berlin 23 1931 pp. 285-368, 3 pls. 18 figs. [Hym.]

2044.—Nomura, K. A list of butterflies from Taihoku. III. [In Japanese.] Trans. Nat. Hist. Soc. Formosa, Taihoku 21 1931 pp. 291-299. [Lep.]

2045.—Nomura, K. Notes on butterflies collected in Pianan (Formosa), together with the distribution of alpine butterflies in the valley of Tarkokei (Formosa). [In Japanese.] Zephyrus, Fukuoka 3 1931 pp. 43-62, 5 figs. [Lep.]

2046.—Nordström, F. Ueber *Dystroma citrata* L. Int. ent. Z., Guben 24 1931 pp. 413-419, 1 pl. [Lep.]

Nordström, F. *see* Vretling & Nordström.

2047.—Norland, C. List of California Pentatomidae, especially from the south. J. Ent. Zool., Claremont 23 1931 pp. 45-46. [Hem.]

2048.—Normand, H. Nouveaux Coléoptères du nord de l'Afrique (19e note). Bull. Soc. ent. Fr., Paris 1931 pp. 124-126, 1 fig.

2049.—North, F. J. Insect life in the coal forests, with special reference to South Wales. Trans. Cardiff Nat. Soc. 62 1931 pp. 16–44, 3 pls. 10 figs. [Fossil.]

Noskiewicz, J. see Kinel & Noskiewicz.

2050.—Nowikoff, M. Ueber die Fauna der Stalaktitenhöhle von Skelja in der Krim. [In Russian with German summary.] Bull. Soc. Nat. Crimée, Simferopol 1 1912 pp. 97–109.

2051.—Nowikoff, M. Zur Frage über den Bau und die physiologische Bedeutung des Rhabdoms. Arch. zool. ital., Torino 16 1931 pp. 763–770, 8 figs.

2052.—Nowikoff, M. Untersuchungen über die Komplexaugen von Lepidopteren nebst einigen Bemerkungen über die Rhabdome der Arthropoden im allgemeinen. Z. wiss. Zool., Leipzig 138 1931 pp. 1–67, 4 pls. 15 figs.

2053.—Obarski, J. Beitrag zur Tenthredinoiden-Fauna (Hymen.) von Polen. Polsk. Pismo ent., Lemberg 10 1931 pp. 40–50 [in Polish with German summary]; Fragm. faun. Mus. zool. polon., Warsaw 1 1931 pp. 361–370.

2054.—Obenberger, J. Buprestidarum supplementa palaeartica VI. Acta Soc. ent. Čech., Prague 27 1930 pp. 102–115. [Col.]

2055.—Obenberger, J. Insecta davidiana I. 1. Buprestidae. Acta Soc. ent. Čech., Prague 27 1930 pp. 116–118. [Col.]

2056.—Obenberger, J. Révision des espèces exotiques du genre *Trachys* Fabr. du continent asiatique. Sbornik ent. odd. Národ. Mus. Praze 7 1929 pp. 5–106, 3 pls. [Col.]

2057.—Obenberger, J. Insecta baumiana I. Sbornik ent. odd. Národ. Mus. Praze 7 1929 pp. 107–119, 3 pls. [Col.]

2058.—Obenberger, J. Espèces nouvelles du genre *Trachys* F. de l'Insulinde (Col. Bupr.). Sbornik ent. odd. Národ. Mus. Praze 8 1930 pp. 5–19.

2059.—Obenberger, J. Révision des espèces du genre *Agrilomorpha* Théry (Col. Bupr.). Sbornik ent. odd. Národ. Mus. Praze 9 1931 pp. 5–8.

2060.—Obenberger, J. Sur les *Agrilus* de l'Afrique de voisinage de l'*A. variegatus* Klug (Col. Bupr.). Sbornik ent. odd. Národ. Mus. Praze 9 1931 pp. 84–98.

2061.—Obenberger, J. Quelques remarques sur les Sphénoptères des sous-genres *Hoplistura* et *Tropeopeltis* (Col. Buprestidae). Bull. Soc. ent. Fr., Paris 1931 pp. 40–43.

2062.—Obenberger, J. Note concernant le genre *Brachycisseis* Théry (Col. Buprestidae). Bull. Soc. ent. Fr., Paris 1931 pp. 90–91.

2063.—Obenberger, J. Meine Antwort auf die Kritiken des Herrn H. J. Carter. Ent. Bl., Berlin 27 1931 pp. 77–83.

2064.—Obenberger, J. *Melanophila picta* Pallas und ihre Farbenaberrationen (Col. Bupr.). Ent. NachrBl., Troppau 5 1931 pp. 32–36, 1 fig.

2065.—Obenberger, J. Agrilenstudien I. (Col. Bupr.). Ent. NachrBl., Troppau 5 1931 pp. 54–71.

2066.—Obenberger, J. Studien über die äthiopischen Buprestiden, I, II. Folia zool. hydrobiol., Riga 1931 2 pp. 175–201; 3 pp. 84–127. [Col.]

2067.—Obenberger, J. Einige Bemerkungen zur Verbreitung und Synonymie von afrikanischen *Meliboëus*-Arten (Col. Buprestidae). Folia zool. hydrobiol., Riga 2 1931 pp. 172–175.

2068.—Obenberger, J. Specierum generis *Meliboëus* H. Deyrolle diagnoses praeliminares (Coleoptera, Buprestidae). Folia zool. hydrobiol., Riga 2 1931 pp. 202–219.

2069.—Ochmann, A. Zucht und Biologie von *Zephyrus betulae* L. Int. ent. Z., Guben 25 1931 pp. 229–235, 3 pls. 2 figs. [Lep.]

2070.—Ochs, G. Ueber einige neue und bemerkenswerte Gyriniden (Coleoptera) im Zoologischen Museum der Akademie der Wissenschaften. Annu. Mus. zool. Acad. Leningrad 31 1930 pp. 65–70.

2071.—Ochs, G. Ueber die Gyriniden-Ausbeute der deutschen limnologischen Sunda-Expedition mit einer Uebersicht über die Gyriniden-Fauna Javas und Larvenbeschreibungen. Arch. Hydrobiol., Stuttgart Suppl. 8 1931 pp. 461–485. [Col.]

2072.—Ochs, G. The present status of knowledge about Chinese Gyrinidae. *Lingnan Sci. J.*, Canton 7 (1929) [1931] pp. 715-720. [Col.]

2073.—Ogloblin, A. Informe preliminar sobre un nuevo parásito del trigo. *Bol. Minist. Agric. Argentina*, Buenos Aires 29 1930 pp. 451-455, 9 figs. [Col.]

2074.—Ogura, S. Erblchkeitsstudien am Seidenspinner *Bombyx mori* L. I. Genetische Untersuchung der Kokonfarbe. *Z. induct. Abstamm.-u. Vererb. Lehre*, Leipzig 58 1931 pp. 122-156. [Lep.]

Ogura, S. *see* Stern & Ogura.

2075.—Ohaus, F. Scarabaeidae: Euchirinae, Phaenomerinae, Rutelinae. *Coleopt. Catalogus*, Berlin 66 1918 241 pp.

2076.—Ohaus, F. Zwei neue Rutelinen (Col. Lamell.) aus dem Basler Naturhistorischen Museum. *Mitt. Schweiz. ent. Ges.*, Berne 15 1930 pp. 17-19, 2 figs.

2077.—Ohaus, F. Neue Geniatinen IV. (Col.) *Stettin. ent. Ztg.* 92 1931 pp. 227-258, 28 figs.

2078.—Ohta, Y. Ueber einige Coelophoren- und Helotiden-Arten aus Formosa, mit beschreibung von 2 neuen Arten. *Insecta matsum.*, Sapporo 5 1931 pp. 134-136. [Col.]

2079.—Ohta, Y. Beitrag zur Kenntnis der Endomychiden Japans. *J. Fac. Agric. Hokkaido Imp. Univ.*, Sapporo 30 1931 pp. 205-242, 1 pl. [Col.]

2080.—Okamoto, H. Ueber die Chrysopiden-Fauna Japans. *J. Coll. Agric. Sapporo* 6 1914 pp. 51-74, 1 fig. [Neur.]

2081.—Oke, C. On some Australian Curculionidae. *Proc. Roy. Soc. Victoria*, Melbourne 43 1931 pp. 177-201, 6 figs. [Col.]

Olsoufieff *see* Olsuf'ev.

2082.—[Olsuf'ev] Olsoufieff, N. G. Zur Frage über die Periodizität der asiatischen Heuschrecke. [In Russian with German summary.] *Bull. Plant Prot., Ent., Leningrad* 1 1930 pp. 91-147, 6 graphs. [Orth.]

2083.—Oman, P. W. Some new *Neocoelidia* with notes on other species (Homoptera, Cicadellidae). *J. Kansas Ent. Soc.*, McPherson 4 1931 pp. 62-68.

2084.—Oman, P. W. New Jassinae, with notes on other species. *J. Washington Acad. Sci.* 21 1931 pp. 430-436, 6 figs. [Hem.]

2085.—Omer-Cooper, J. On *Gyrinus natator* L. and *G. substriatus* Steph. *Ent. Mon. Mag.*, London 67 1931 pp. 195-198. [Col.]

2086.—Omer-Cooper, J. Report on the Dytiscidae (Coleoptera), Mr. Omer-Cooper's investigation of the Abyssinian fresh waters (Hugh Scott expedition). *Proc. Zool. Soc. London* 1931 pp. 751-801, 9 pls. 4 figs.

2087.—Omer-Cooper, J. Some notes on Dytiscidae collected in Northumberland and Durham in 1930. *Vasculum*, Newcastle-on-Tyne 17 1931 pp. 43-50. [Col.]

O'Neil, H. W. *see* Morgan & O'Neil.

Onissimova, Z. *see* Konakov & Onissimova.

2089.—d'Orchymont, A. *Hydraena* nouvelles récoltées aux Balkans. *Diagnoses préliminaires*. *Bull. Ann. Soc. ent. Belg.*, Brussels 71 1931 pp. 28-34. [Col.]

2090.—d'Orchymont, A. Notes sur quelques *Hydraena* circum-méditerranéennes. *Bull. Ann. Soc. ent. Belg.*, Brussels 71 1931 pp. 63-73, 1 pl. [Col.]

2091.—d'Orchymont, A. Note au sujet de certaines formes confondues par des auteurs précédents sous le nom d'*Hydraena gracilis* Germar. *Bull. Ann. Soc. ent. Belg. Brussels* 71 1931 pp. 139-142. [Col.]

2092.—d'Orchymont, A. Une phase de l'étude des Coléoptères.—Les palpicornes. *C.R. Congr. nat. Sci. Bruxelles* 1930 1931 pp. 850-855.

2093.—d'Orchymont, A. On two species of *Sphaeridium* from the Oriental region (Coleoptera—Hydrophilidae). *Lingnan Sci. J.*, Canton 7 (1929) [1931] pp. 409-413, 3 figs.

2094.—Orfila, R. N. Estudios de Lepidopterología Argentina. *Rev. Soc. ent. argent.*, B. Aires 3 1931 pp. 185-202, 3 pls. 4 figs.; 311-316, 1 fig.

2095.—Orfila, R. N. Adición (IIa) al Catálogo de los Lepidópteros argentinos. *Rev. Soc. ent. argent.*, B. Aires 3 1931 pp. 237-238.

2096.—Orfila, R. N. El genotipo de *Lachnus* Burm. (Hemip.-Aphid.). Rev. Soc. ent. argent., B. Aires 3 1931 pp. 249-250.

2096a.—Örösi Pal, Z. Die Wachsdrüsen der Winterbienen. [In Hungarian with German translation.] Arb. Ung. biol. Forsch. Inst., Tihany 4 1931 pp. 108-121, 6 figs. [Hym.]

2097.—Orska, J. Sur un développement atypique du corps mitochondrial chez le mâle (faux-bourdon) de l'abeille domestique (*Apis mellifica*, Hyménoptères). C.R. Soc. Biol., Paris 108 1931 pp. 680-682, 9 figs.

2098.—Orska, J. Appareil de Golgi, chondriôme et vacuôme dans les cellules sexuelles mâles chez l'abeille domestique (*Apis mellifica*, Hyménoptères). C.R. Soc. Biol., Paris 108 1931 pp. 1267-1269, 15 figs.

2099.—Orstadius, E. Larven av *Cidaria coerulata* F. i gallbildning a bladen av *Salix* sp. Ent. Tidskr., Stockholm 51 1930 p. 257. [Lep.]

2100.—Osborn, H. Early work and workers in American Hemipterology. Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 679-685.

2101.—Osthelder, L. Persönliche Bemerkungen zum Seitz-Supplement. Mitt. münchn. ent. Ges. 21 1931 pp. 87-88. [Lep.]

2102.—Osthelder, L. Die Schmetterlinge Südbayerns und der angrenzenden nördlichen Kalkalpen. I. Teil. Die Grossschmetterlinge. Mitt. münchn. ent. Ges. 21 1931 suppl. pp. 469-537, 2 pls. [Lep.]

2103.—Osthelder, L. & Pfeiffer, E. Lepidopteren-Fauna von Marasch in türkisch Nordsyrien. Mitt. münchn. ent. Ges. 21 1931 pp. 68-86.

Owen, jr., W. L. see Fenton & Owen.

2104.—Ozols, E. Material zur Ichneumonidenfauna Lettlands. I. Folia zool. hydrobiol., Riga 3 1931 pp. 175-191, 1 pl. [Hym.]

2105.—Pagast, F. Chironomiden aus der Bodenfauna des Usma-Sees in Kurland. Folia zool. hydrobiol., Riga 3 1931 pp. 199-248, 2 pls. [Dipt.]

2106.—Pagden, H. T. Two Citrus fruit borers. Sci. Ser. Dept. Agric. S.S. & F.M.S., Kuala Lumpur no 7 1931 pp. 1-16, 9 figs. [Lep.]

2107.—Pagliano, T. & Séguéla, J. Comportement du *Pachytychius avulsus* Faust (Charançon nuisible aux grains de blé immatures) au Service botanique et à l'école coloniale d'Agriculture de Tunis. Ann. Serv. bot. Tunisie, Tunis 6 (1929) 1930 pp. 175-186, 3 pls. [Col.]

2108.—Paillot, A. & Noel, R. Recherches histo-physiologiques sur le tissu adipeux des larves d'insectes (*Bombyx mori* et *Pieris brassicae*). Bull. Histol. appl. Physiol. Path. Tech. microsc., Lyon 5 1928 pp. 1-20, 56-78, 105-128, 17 figs. [Lep.]

Pal, Z. Örösi see Örösi Pal.

2109.—Palm, T. För Sverige nya Coleoptera. Ent. Tidskr., Stockholm 51 1930 pp. 194-197.

2110.—Palmer, J. A. J. & Stelfox, A. W. On the habits of *Sphex affinis* (Lutaria) in Ireland. Ent. Mon. Mag., London 67 1931 pp. 130-133. [Hym.]

Palmer, M. A. see Gillette & Palmer.

Palmer, R. see Butler & Palmer.

2111.—Paoli, G. Caratteri diagnostici delle *Empoasca* e descrizione di nuove specie. Proc. verb. Soc. tosc. Sci. Nat., Pisa 39 1930 pp. 64-75, 7 figs. [Hem.]

2112.—Pape, H. Beitrag zur Kenntnis der Biologie und Bekämpfung der Akelei-Blattwespe (*Pristiphora alnivora* Htg.). Z. PflKrankh., Stuttgart 41 1931 pp. 1-8, 4 figs. [Hym.]

2113.—Paramonow, S. J. Ueber einige neue Arten und Varietaeten von Dipteren (Fam. Stratiomyidae et Syrphidae). Bull. Cl. Sci. phys. math. Acad. Sci. Ukraine, Kieff 2 1926 pp. 87-93.

2114.—Paramonow, S. J. Diptero-logische Fragmente. Trav. Mus. zool. Kiev no. 10 1931 pp. 221-239.

2115.—Paramonow, S. J. Beiträge zur Monographie der Bombyliiden-Gattungen *Amictus*, *Lyophlaeba* etc. (Diptera). Trav. Mus. zool. Kiev no. 11 1931 pp. 1-218.

2116.—Paramonow, S. J. Die Verbreitung der Gattung *Usia* Latr. (Bombyliidae, Diptera) und die Probleme der Krimschen Fauna. Zool. Anz., Leipzig 96 1931 pp. 282-284.

2117.—Parent, O. Diptères Dolichopodides de l'Amérique du Sud. Espèces nouvelles figurant dans la collection Schnuse conservée aux Staatliche Museen für Tierkunde und Völkerkunde zu Dresden. Abh. Mus. Dresden **18** 1931 pp. 1-22, 3 pls.

2118.—Parent, O. Quelques Dolichopodides nouveaux conservés au British Museum. Ann. Soc. sci. Bruxelles (B) **51** 1931 Sci. phys. nat. pp. 39-47, 15 figs. [Dipt.]

2119.—Parfentjev, J. A. & Devrient, W. Ueber die Wirkung des Arsens auf den Gasstoffwechsel bei Insekten. Biochem. Z., Berlin **217** 1930 pp. 368-377.

Parfentjev, J. A. see Rona, Parfentjev & Lippmann.

2120.—Pariser, K. Die Zucht der Lymantriidae und Saturniidae in PÉTERFI Meth. Wissenschaftl. Biol., Berlin Allg. Physiol. **2** 1928 pp. 290-300, 2 figs. [Lep.]

2121.—Park, O. Studies in the ecology of Coleoptera. II. The relation of certain Coleoptera to plants for food and shelter, especially those species associated with fungi in the Chicago area. Ecology, Brooklyn, N.Y. **12** 1931 pp. 188-207, 1 graph.

2122.—Park, O. Abnormal antennae in *Eleodes* (Coleopt.: Tenebrionidae). Ent. News, Philadelphia **42** 1931 pp. 112-113, 1 fig.

2123.—Parker, H. L. Notes on *Meteorus* (*Zemites*) *nigricollis* Thomson, an occasional parasite of the European corn borer. Proc. Ent. Soc. Washington **33** 1931 pp. 93-101, 1 pl. 1 fig. [Lep., Hym.]

2124.—Parker, H. L. *Macrocentrus gifuensis* Ashmead, a polyembryonic Braconid parasite in the European corn borer. Tech. Bull. U.S. Dept. Agric., Washington D.C. **230** 1931 62 pp. 21 figs. [Hym., Lep.]

Parman, D. C. see Laake, Parman, Bishop & Roark.

2125.—Parrott, P. J. & Glasgow, H. The leaf-weevil (*Polydrusus impressifrons* Gyll.). Tech. Bull. New York Agric. Expt. Sta. **56** 1916 24 pp. 6 figs. [Col.]

2126.—Pate, V. S. L. New or little-known Oxybeline wasps from Algeria (Hymen.: Sphecidae). Bull. Soc. Hist. nat. Afr. N., Algiers **22** 1931 pp. 111-116, 1 fig.

2127.—Pate, V. S. L. A new *Belomicrus* from the West (Hymen.: Sphecidae). Ent. News, Philadelphia **42** 1931 pp. 77-78.

2128.—Paterson, N. F. A contribution to the embryological development of *Euryope terminalis* Baly (Coleoptera, Phytophaga, Chrysomelidae). Part I:—The early embryological development. S. Afr. J. Sci., Johannesburg **28** 1931 pp. 344-371, 5 pls. 6 figs.

2129.—Paterson, N. F. The bio-nomics and comparative morphology of the early stages of certain Chrysomelidae (Coleoptera, Phytophaga). Proc. Zool. Soc. London **1931** pp. 879-949, 3 pls. 30 figs.

2130.—Patev, P. Verzeichnis der entomologischen Literatur in den Jahren 1929 und 1930. [In Bulgarian.] Mitt. bulgar. ent. Ges. Sofia **6** 1931 pp. 207-216.

2131.—Patterson, J. T. The production of gynandromorphs in *Drosophila melanogaster* by X-rays. J. Exp. Zool., Philadelphia **60** 1931 pp. 173-203, 2 pls. [Dipt.]

2132.—Patton, W. S. Insects, ticks, mites and venomous animals of medical and veterinary importance. Part II. Public Health. Liverpool, School Trop. Med. 1931 viii + 740 pp. 57 pls. 388 figs. 1 chart.

2133.—Paulian, R. Coprophages nouveaux pour la faune de Hoa-Binh (Tonkin). Bull. Soc. ent. Fr., Paris **1931** pp. 270-272. [Col.]

2134.—Payne, F. An experiment to test the nature of the variations on which selection acts. Indiana Univ. Stud., Bloomington **5** no. 36 1918 pp. 1-45, 4 figs. [Dipt.]

2135.—Payne, F. Cytoplasmic changes in young ova of insects. Anat. Rec., Philadelphia **51** 1931 suppl. pp. 75-76.

Payne, M. A. see Baumgartner & Payne.

2136.—Payne, N. M. Effect of temperature upon the development and life length of *Habrobracon juglandis* Ashmead. Anat. Rec., Philadelphia **51** 1931 suppl. p. 24. [Hym.]

2137.—Payne, N. M. A mutation in *Tenebrio molitor* Linnaeus (Coleoptera, Tenebrionidae). *Anat. Rec., Philadelphia* 51 1931 suppl. p. 123.

2138.—Payne, N. M. Food requirements for the pupation of two Coleopterous larvae, *Synchroa punctata* Newm. and *Dendroides canadensis* Lec. (Melandryidae, Pyrochroidae). *Ent. News, Philadelphia* 42 1931 pp. 13-15.

2139.—Peacock, A. D. & Gresson, R. A. R. Male haploidy and female diploidy in *Sirex cyaneus* F. (Hymen.). *Proc. Roy. Soc. Edinburgh* 51 1931 pp. 97-103, 1 pl.

2140.—Pearce, E. J. Report on the Halipidae (Coleoptera). Mr. Omer-Cooper's investigation of the Abyssinian fresh waters (Hugh Scott Expedition). *Proc. Zool. Soc. London* 1931 pp. 31-32.

2141.—Pearman, J. V. More Psocoptera from warehouses. *Ent. Mon. Mag., London* 67 1931 pp. 95-98.

2142.—Peetz, D. F. Beiträge zur Käferfauna des westfälisch-lippischen Weserberglandes. (Adephaga: ii. Teil. Polyphaga: Staphylinoidea.) *Abh. Westf. Prov. Mus. Naturk., Münster* 2 1931 pp. 129-144. [Col.]

2143.—Pendlebury, H. M. Rhopalocera from Mangalum Island, North-west Borneo. *Bull. Raffles Mus., Singapore* 5 1931 pp. 94-97, 1 pl. [Lep.]

2144.—Pendlebury, H. M. A preliminary note on some insects from Mangalum Island, North-west Borneo. *Bull. Raffles Mus., Singapore* 5 1931 pp. 97-101.

2145.—Pendlebury, H. M. A note on termites. *Malayan For. Rec., Singapore* no. 8 1930 pp. 45-56, 6 pls. [Isopt.]

2146.—Péneau, J. Notules hémiptérologiques. No. vii. *Bull. Soc. Sci. nat. Ouest Fr., Nantes* (4) 10 1931 pp. 55-63, 5 figs.

Pepper, B. B. *see* Driggers, B. F.

2147.—Peredel'skii, A. A. Zur Frage über die Rolle des Nervensystems bei der Metamorphose der Schmetterlinge. [In Russian with German summary.] *Arb. Moskauer Forschungssta. Seide u. Seidenraupenzucht* 4 1930 no. 1 pp. 41-62. [Lep.]

2148.—Peredel'skii, A. A. Studien über die Lebensdauer. I. Ob die Atmosphäre des Kokons auf die Lebensdauer der Schmetterlinge einen Einfluss hat? [In Russian with German summary.] *Arb. Moskauer Forschungssta. Seide u. Seidenraupenzucht* 4 1930 no. 1 pp. 63-86.

2149.—Pérez, M. Q. Especies nuevas de Aphidiidae españoles (Hym. Brac.). *Eos, Madrid* 7 1931 pp. 25-84, 98 figs.

2150.—[Perfil'ev] Perfiliew, P. Zur Frage über die vergleichende Anatomie von *Anopheles*. [German summary.] *Mag. Parasit. Mus. Zool. Sci. U.R.S.S.* no. 1 1930 pp. 75-96. [Abst. in *Bull. Inst. Pasteur Paris* 29 1931 p. 892.] [Dipt.]

2151.—Perkins, R. C. L. New species of Hawaiian Cerambycidae (Col.). *Proc. Hawaii. Ent. Soc.* 1929-30, Honolulu 7 1931 pp. 415-418.

2152.—Perkins, R. C. L. Descriptions of new Hawaiian Coleoptera. *Proc. Hawaii. Ent. Soc.* 1929-30, Honolulu 7 1931 pp. 509-515.

2153.—Peska, W. Beobachtungen über die Biologie der räuberischen Wanze *Anthocoris nemorum* L. [In Polish with German summary.] *Prace Wydz. Chorób Roślin Państ. Inst. Nauk. Gosp. Wiejsk. Bydgoszczy* no. 10 1931 pp. 53-71, 4 pls. [Hem.]

2154.—Peters, H. S. Two new Mallophaga from two closely related shorebirds. *Ann. Ent. Soc. Amer., Columbus* 24 1931 pp. 583-586, 2 figs.

2155.—Peters, H. S. A new louse from domestic chickens (Mallophaga; Philopteridae). *Ent. News, Philadelphia* 42 1931 pp. 195-199, 2 figs.

2156.—Petersen, W. Nahrung und Genotypus. *Z. Morph. Oekol. Tiere* Berlin 20 1931 pp. 679-690. [Lep.]

2157.—Peyerimhoff, P. de. Recherches sur la synonymie des Coléoptères du Nord-Africain (première note). *Abeille, Paris* 31 1923 pp. 185-187.

2158.—Peyerimhoff, P. de. Nouveaux Coléoptères du Nord-Africain. 74. *Ann. Soc. ent. Fr., Paris* 100 1931 pp. 1-20, 1 fig.

2159.—Peyerimhoff, P. de. Mission saharienne Augiéras-Draper 1927-1928. Coléoptères sahariens. *Bull. Mus. Hist. nat., Paris* (2) 3 1931 pp. 487-491.

2160.—Peyerimhoff, P. de. Notes sur huit autres Coléoptères découverts récemment dans le nord de l'Afrique. *Bull. Soc. ent. Fr.*, Paris 1931 pp. 285-287.

2161.—Peyerimhoff, P. de. Mission scientifique du Hoggar. Coléoptères. *Mém. Soc. Hist. nat. Afr. N.*, Algiers 2 1931 172 pp. 3 pls. 2 maps 19 figs.

2162.—Pfankuch, K. Neue Ichneumoniden. *Ent. Jahrb.*, Leipzig 1921 pp. 149-159. [Hym.]

2163.—Pfankuch, K. Die von Norwich gesammelten paläarktischen Ichneumoniden des Bremer Museums. *Abh. Naturwiss. Ver. Bremen* 26 1926 pp. 37-58. [Hym.]

2164.—Pfannenstiel, M. Wirbellose und Wirbeltiere des Palaeozoikums. *Oberrheinischer Fossilkat.*, Berlin 1 1931 no. 1 pp. 1-25. [Fossil Insects pp. 18-19.]

2165.—Pfeiffer, A. Zoogeographische Verbreitung der Borkenkäfer in der Tschechoslowakischen Republik. *Verh. deuts. Ges. angew. Ent.* 8. Mitglieder-versamml. Rostock Aug. 1930, Parey, Berlin 1931 pp. 72-76. [Col.]

Pfeiffer, E. *see* Osthelder & Pfeiffer.

2166.—Philip, C. B. Two new species of *Uranotaenia* (Culicidae) from Nigeria, with notes on the genus in the Ethiopian region. *Bull. Ent. Res.*, London 22 1931 pp. 183-193, 2 figs. [Dipt.]

2167.—Philip, C. B. List of mosquitoes collected in Nigeria, West Africa, incidental to research on yellow fever. *Proc. Ent. Soc. Washington* 33 1931 pp. 44-47. [Dipt.]

2168.—Phillips, J. [F. V.]. The biotic community. *J. Ecology*, Cambridge 19 1931 pp. 1-24.

2169.—Phillips, J. S. Studies of New Zealand mayfly nymphs. *Trans. Ent. Soc. London* 79 1931 pp. 399-422, 8 pls. [Ephemeropt.]

Phillips, M. E. *see* Hamlin, Reed & Phillips.

2170.—Philpott, A. Notes and descriptions of New Zealand Lepidoptera. *Trans. N.Z. Inst.*, Wellington 62 1931 pp. 26-36, 4 figs.

2171.—Phipps, C. R. Blueberry and huckleberry insects. *Bull. Maine Agric. Expt. Sta.*, Orono 356 1930 pp. 107-232, 10 pls.

2172.—Pic, M. Coléoptères asiatiques nouveaux. *Sbornik ent. odd. Nár. Mus. Praha* 8 1930 pp. 58-59.

2173.—Pic, M. Nouveaux Hétéromères d'Afrique (Col.). *Ann. Mag. Nat. Hist.*, London (10) 8 1931 pp. 555-557.

2174.—Pic, M. Malacodermes nouveaux (Coléopt.). *Ann. Soc. ent. Fr.*, Paris 100 1931 p. 86.

2175.—Pic, M. Nouveaux Coléoptères d'Italie. *Boll. Soc. ent. ital.*, Genoa 63 1931 p. 159.

2176.—Pic, M. Nouveaux Coléoptères. *Bull. Mus. Hist. nat.*, Paris (2) 3 1931 pp. 106-109, 444-449.

2177.—Pic, M. Nouveaux Coléoptères de Madagascar. *Bull. Mus. Hist. nat.*, Paris (2) 3 1931 pp. 440-443.

2178.—Pic, M. Coléoptères intéressants ou nouveaux d'Égypte et du Sinaï. *Bull. Soc. ent. Égypte*, Cairo 1931 pp. 134-136.

2179.—Pic, M. Sur le genre *Osdara* Walk. (Col. Hétéromères). *Bull. Soc. ent. Fr.*, Paris 1931 pp. 44-46.

2180.—Pic, M. Coléoptères nouveaux du Maroc. *Bull. Soc. ent. Fr.*, Paris 1931 pp. 60-61.

2181.—Pic, M. Nouveaux Coléoptères de la Colombie. *Bull. Soc. ent. Fr.*, Paris 1931 pp. 192-194.

2182.—Pic, M. Observations sur les Coléoptères vésicants et descriptions de formes nouvelles. *Bull. Soc. ent. Fr.*, Paris 1931 pp. 194-196.

2183.—Pic, M. Cerambycides paléartiques et "prépaléartiques." *Bull. Soc. ent. Fr.*, Paris 1931 pp. 257-259. [Col.]

2184.—Pic, M. Coléoptères africains nouveaux ou peu connus. *Bull. Soc. ent. Fr.*, Paris 1931 pp. 261-264.

2185.—Pic, M. Divers Coléoptères exotiques nouveaux. *Bull. Soc. linn. Lyon* 10 1931 pp. 26-27.

2186.—Pic, M. Nouveaux Coléoptères du globe. *Bull. Soc. linn. Lyon* 10 1931 pp. 138-139.

2187.—Pic, M. A propos du genre *Ectenostoma* Fähr. (Col.) *Bull. Soc. zool. Fr.*, Paris 56 1931 pp. 149-152.

2188.—Pic, M. Notes diverses, nouveautés. *Echange, Moulins* 47 1931 pp. 1-2, 5-6, 9-10, 13-14.

- 2189.**—Pic, M. Coléoptères exotiques en partie nouveaux. Echange, Moulins 47 1931 pp. 4, 12.
- 2190.**—Pic, M. Malacoderma exotiques. Echange, Moulins 47 1931 hors-texte pp. 93–108.
- 2191.**—Pic, M. Neue exotische Coleopteren (Malacodermata). Ent. Anz., Vienna 11 1931 pp. 77–78, 377–379.
- 2192.**—Pic, M. Sur divers *Lema* F. de Madagascar (Col.). Ent. NachrBl., Troppau 5 1931 pp. 40–41.
- 2193.**—Pic, M. Sur le genre *Tibetobia* Friv. et quelques autres Lamieus (Coléoptères). Ent. NachrBl., Troppau 5 1931 pp. 48–49.
- 2194.**—Pic, M. Nouveautés diverses. Mélanges exot.-ent., Moulins 1931 57 pp. 1–36; 58 pp. 1–36. [Col.]
- 2195.**—Pic, M. Sur divers Cerambycides. Misc. ent., Castanet-Tolosan 33 1931 pp. 36–37. [Col.]
- 2196.**—Pic, M. Sur quelques Hispides de l'Amérique méridionale (Col.). Rev. Soc. ent. argent., Buenos Aires 3 1931 pp. 343–346.
- 2197.**—Pic, M. Coléoptères (Clavicornes, Clérides, Malacodermes, Hé téromères, Bruchides, Phytophages) d'Angola. Rev. suisse Zool., Geneva 38 1931 pp. 419–427.
- 2198.**—Pic, M. Coléoptères Malacodermes Hé téromères nouveaux. Rev. Zool. Bot. afr., Brussels 21 1931 pp. 37–50.
- 2199.**—Pic, M. Nouveaux vésicants de la région du Congo. Rev. Zool. Bot. afr., Brussels 21 1931 pp. 95–99. [Col.]
- 2200.**—Picard, F. Recherches biologiques sur un cynipide, *Biorhiza pallida* Ol. Bull. biol. Fr.-Belg., Paris 65 1931 pp. 58–102, 12 figs. [Hym.]
- 2201.**—Pickles, A. On the oviposition of *Tomaspis saccharina*, Dist. (Rhynch., Cercop.), an insect pest of sugar-cane in Trinidad. Bull. Ent. Res., London 22 1931 pp. 461–468, 1 fig.
- 2202.**—Pickles, A. On the metamorphosis of the alimentary canal in certain Ephemeroptera. Trans. Ent. Soc. London 79 1931 pp. 263–274, 2 pls.
- 2203.**—Pickles, A. Froghopper ecology. Trop. Agriculture, Trinidad 8 1931 pp. 127–130. [Hem.]
- Pickles, A.** see Ulrich & Pickles.
- 2204.**—Pictet, A. Recherches expérimentales sur l'accouplement bilatéral et la double ponte de *Lasiocampa quercus* L. Bull. Soc. lép. Genève 6 1931 pp. 126–129.
- 2205.**—Pictet, A. Observations sur l'action du mauvais temps persistant sur la faune des papillons, dans la région du Parc National Suisse. Bull. Soc. lép. Genève 6 1931 pp. 129–132.
- 2206.**—Pictet, A. Recherches de génétique dans les croisements de *Lasiocampa quercus* L. et de ses races *alpina* Frey d'altitudes moyenne et supérieure. Bull. Soc. lép. Genève 6 1931 pp. 140–170, 1 pl.
- 2207.**—Pictet, A. Sur le double accouplement et la double ponte de *Lasiocampa quercus* L. (Lépidoptères). Rev. suisse Zool., Geneva 38 1931 pp. 373–375.
- 2208.**—Pictet, A. Recherches expérimentales sur le double accouplement et la double ponte de *Lasiocampa quercus* (Lépidoptères) et sur les conséquences génétiques qui en résultent. Rev. suisse Zool., Geneva 38 1931 pp. 449–467.
- 2209.**—Pierantoni, U. Origine e sviluppo degli organi simbiotici di *Oryzaephilus (Silvanus) surinamensis* L. Atti Acc. Sci. fis. mat. Napoli (2) 18 no. 4 1930 pp. 1–16, 3 pls. 1 fig. [Col.]
- 2210.**—Pigorini, L. & others. [Reprints of papers on silkworms.] Annu. Staz. bacol. sper. Padova 46 1931 vi + 848 pp. many figs. [Lep.]
- 2211.**—Ping, C. Preliminary notes on the fauna of Nanking. Contr. Biol. Lab. Sci. Soc. China, Nanking Zool. 7 1931 pp. 173–201. [Insects pp. 185–188.]
- 2212.**—Pinto, C. Características morfológicas da larva de *Otenocephalides felis* (Bouché, 1835) (Siphonaptera, Pulicidae). Bol. biol., Rio de Janeiro fasc. 18 1931 pp. 28–34, 5 figs.
- 2213.**—Pinto, C. Valor do rostre e antenas na caracterização dos generos de Triatomídeos. Hemiptera. Reduviídeoidea. Bol. biol., Rio de Janeiro fasc. 19 1931 pp. 45–136, 1 pl. 70 figs.
- 2214.**—Pinto, C. Hypopygio ou terminalia das moscas hematophagas Stomoxydinae (Diptera. Muscidae). Rev. med.-cirurg. Brasil 39 1931 pp. 248–254, 7 figs.

2215.—Pinto da Fonseca, J. Contribuição para o conhecimento do cyclo evolutivo de *Pristiopsis serrata* (Fabr.) (Homopt., Fulg.). Rev. Ent., São Paulo 1 1931 pp. 150–156, 4 figs.

2216.—Pinto da Fonseca, J. & Autuori, M. Contribuição para a biologia de *Solanophila clandestina* (Muls.) (Col. Coccinell.). Rev. Ent., São Paulo 1 1931 pp. 219–224, 5 figs.

2217.—Pionneau, P. Sur quelques Rhopalocères paléarctiques. (Suite.) Echange, Moulins 47 1931 pp. 7–8, 15–16.

2218.—Pionneau, P. Contributions à l'étude et à la connaissance des variétés de *Lycaena bellargus* Rott. Misc. ent., Castanet-Tolosan 33 1931 pp. 33–34. [Lep.]

Piquet, J. see Bischler & Piquet.

2219.—Pitman, C. R. S. Further experiments with insect-food on the African lemur *Perodicticus potto*, Lesson. Proc. Ent. Soc. London 5 1931 pp. 91–92.

2220.—Pjatnikzkii, G. K. Additions au travail de M. V. Starck "Les scolytens du littoral de la mer noire." [In Russian.] Rev. russe Ent., Leningrad 24 1930 pp. 162–165, 2 figs. [Col.]

2221.—Pjatnikzkii, G. K. Drei neue Waldschädlingsarten aus Kirgisien. Ent. Bl., Berlin 27 1931 pp. 167–173, 2 figs. [Col.]

2222.—Plate, L. Bemerkungen zu den Jollosschen Orthomutationen von *Drosophila*. Biol. Zbl., Leipzig 51 1931 pp. 134–136. [Dipt.]

2223.—Platova, A. D. Einfluss des Ernährung und der Dunkelheit auf die Fruchtbarkeit des Schmetterlings *Bombyx mori* L. [In Russian with German summary.] Arb. Moskau. ForschSta. Seide u. Seidenraupenzucht 3 1928 no. 1–4 pp. 1–33, 3 pls. [Lep.]

2224.—Plavilstshikov, N. N. Cerambycidae I. Teil. Cerambycinae: Disteniini Cerambycini (Protaxina, Spondylina, Asemina, Saphanina, Achrysonina, Oemina, Cerambycina). Bestimmungen-Tabellen der europäischen Coleopteren, Troppau 100 1931 pp. 1–102.

2225.—Plavilstshikov, N. N. Ueber die von G. L. Suvorov beschriebenen Cerambyciden-Arten (Coleoptera). Ent. Bl., Berlin 27 1931 pp. 59–65.

2226.—Plavilstshikov, N. N. Zwölf neue Cerambyciden-Aberrationen (Coleopt.). Ent. NachrBl., Troppau 5 1931 pp. 37–39.

2227.—Plavilstshikov, N. N. Beitrag zur Verbreitung der paläarktischen Cerambyciden. II. Ent. NachrBl., Troppau 5 1931 pp. 71–76. [Col.]

2228.—Plavilstshikov, N. N. Neue Clytiden-Formen (Col., Cerambycidae). Ent. NachrBl., Troppau 5 1931 pp. 85–87, 3 figs.

2229.—Plavilstshikov, N. N. Neue Saperda-Formen (Col., Cerambycidae). Ent. NachrBl., Troppau 5 1931 pp. 87–88, 3 figs.

2230.—Plavilstshikov, N. N. Eine neue *Dorcadion*-Art aus Kashgarien (Col. Cerambycidae). Folia zool. hydrobiol., Riga 3 1931 pp. 274–277.

2231.—Plavilstshikov, N. N. *Embrikstrandia*, eine neue Callichrominen-Gattung (Col. Cerambycidae). Folia zool. hydrobiol., Riga 3 1931 pp. 278–279.

2232.—Plavilstshikov, N. N. Synonymische Bemerkung über Cerambyciden. Koleopt. Rdsch., Vienna 17 1931 pp. 195–203. [Col.]

2233.—Pleske, T. Résultats scientifiques des expéditions entomologiques du Musée zoologique dans la région de l'Oussouri. II. Diptera: Les Stratiomyidae, Erinnyidae, Coenomyidae et Oestridae. Annu. Mus. zool. Acad. Leningrad 31 1930 pp. 181–206.

2234.—Pliginsky, W. Coleoptera of the Crimea. iii–v. [In Russian.] Bull. Soc. Nat. Crimée, Simferopol 3 1913 pp. 93–106; 5 1916 pp. 115–144; 10 1928 pp. 40–100.

2235.—Poche, F. Gutachten der Nomenklatur-Kommission des Verbandes deutschsprachlicher Entomologen-Vereine über die Frage der Verbesserung bestimmter wissenschaftlicher Namen. Ent. Anz., Vienna 11 1931 pp. 317–322.

2236.—Poisson, R. A propos d'observations récentes sur les insectes Hémiptères. Bull. Soc. linn. Normand., Caen (8) 2 (1929) 1930 pp. 6–8.

2237.—Poisson, R. & A. Hémiptères de Normandie. Bull. Soc. linn. Normandie, Caen (7) 10 1927 pp. 44*–46*, 113*–115*; (8) 1 1928 pp. 57–83, 4 figs.; (8) 3 1931 pp. 15–19.

2238.—Poisson, R. & Monguillon, E. Notes biogéographiques. Documents sur la faune hémiptérologique des environs du Mans (Sarthe). Bull. Soc. linn. Normandie, Caen (8) 3 1931 pp. 19-27.

2239.—Pollard, C. L. Habits of South American equatorial butterflies. J. New York Ent. Soc. 39 1931 pp. 167-170. [Lep.]

2240.—Pomerantzev, D. V. Zur Biologie des Blattwespen der Esche. [In Russian with German summary.] Bull N. Cauc. Plant Prot. Sta., Rostov-on-Don 6-7 1930 pp. 27-32, 4 figs. [Hym.]

2241.—Pongrácz, A. Fossile Insekten aus Siebenbürgen. Pub. Muzeului jud. Hunedoara, Deva 25-26 (1927-28) 1928 pp. 113-123, 5 figs. 1 chart.

2242.—Pongrácz, A. Bemerkungen über die Insektenfauna von Oeningen nebst Revision der Heer'schen Typen. Verh. naturh.-med. Ver. Heidelberg 17 1931 pp. 104-125, 9 pls. 9 figs.

2243.—Poos, F. W. & Smith, F. F. A comparison of oviposition and nymphal development of *Empoasca fabae* (Harris) on different host-plants. J. Econ. Ent., Geneva, N.Y. 24 1931 pp. 361-371, 1 pl. [Hem.]

Poos, F. W. see Smith & Poos.

2244.—Pope, T. E. B. Collecting along the Yellowstone trail. Yearb. public Mus. Milwaukee 9 1931 pp. 36-68, 25 figs. [Insects: Lep. pp. 50-52.]

2245.—Popov, V. B. Zur Kenntnis der paläarktischen Schmarotzerhumeln (*Psithyrus* Lep.). Eos, Madrid 7 1931 pp. 131-209, 26 figs. [Hym.]

2246.—Porter, C. E. Nota sobre dos Aráridos chilenos. Rev. chil. Hist. nat., Santiago de Chile 34 1930 pp. 149-151. [Hem.]

2247.—Porter, C. E. Notas sobre Hemipteros chilenos. Rev. chil. Hist. nat., Santiago de Chile 34 1930 pp. 294-298, 1 fig.

2248.—Porter, C. E. El género *Chenoderus*, F. & G. Rev. chil. Hist. nat., Santiago de Chile 34 1930 pp. 332-337, 1 pl. [Col.]

2249.—Portevin, G. Histoire naturelle des Coléoptères de France. Encyc. ent., Paris Sér. A 13 1931 vii + 542 pp. 5 pls. 553 figs.

Portier, P. see Raffy & Portier.

2250.—Poulton, E. B. British Asilidae (Diptera) and their prey. Proc. Ent. Soc. London 5 1931 pp. 86-87.

2251.—Poulton, E. B. Further observations on the pollination of Australian orchids by a male Ichneumonid. Proc. Ent. Soc. London 5 1931 p. 114. [Hym.]

2252.—Poulton, E. B. Two specially significant examples of insect mimicry. Trans. Ent. Soc. London 79 1931 pp. 395-398, 2 pls. [Lep.]

2253.—Poulton, E. B. & others. Association of Birds' nests with nests of insects. Proc. Ent. Soc. London 6 1931 pp. 54-56.

2254.—Powell, jr., T. E. An ecological study of the tobacco beetle, *Lasioderma serricorne* Fabr., with special reference to its life-history and control. Ecological Monographs, Durham, N.C. 1 1931 pp. 333-393, 20 figs. [Col.]

Predmerski see Teubner-Predmerski.

2255.—Predtechenskii, S. A. Zur Orthopterenfauna (Acrididae) des unteren Wolgagebiets. [In Russian with German summary.] Comment. Inst. Astrachanensis def. Plant. 2 fasc. 3 1929 7 pp.

2256.—Predtechenskii, S. A. Die Heuschrecke (*Locusta migratoria* L.) in der Rjasano-Tambowschen Niederung. [In Russian with German summary.] Bull. Plant Prot., Ent., Leningrad 1 1930 pp. 3-49. [Orth.]

2257.—Predtechenskii, S. A. Praktische Resultaten der ökologischen Studien über die Wanderheuschrecke in Mittellrussland. [In Russian with German summary.] Bull. Plant Prot., Ent., Leningrad 1 1930 pp. 149-159. [Orth.]

2258.—Prell, H. Die nadelknickende Kieferngallmücke (*Cecidomyia baeri* n. sp.) ein verbreiteter neuer Kiefern-schädling. Tharandter Forst. Jahrb., Berlin 82 1931 pp. 36-52, 5 figs. [Dipt.]

2259.—Prell, H. Die Brutbildtypen der einheimischen rindenbrütenden Borkenkäfer. Z. angew. Ent., Berlin 18 1931 pp. 361-370. [Col.]

2260.—Pretner, E. *L'Hydraena* (*Haenydra*) *italica* Ggbl. e le sue varietà. Boll. Soc. ent. ital., Genoa 63 1931 pp. 72-80, 4 figs. [Col.]

2261.—Pretner, E. Ueber die angebliche Variabilität der *Hydraena gracilis* Germar. Coleopt. Centralbl., Berlin 5 1931 pp. 81–106, 5 figs.

2262.—Pretner, E. Beitrag zur Kenntnis der paläarktischen *Hydraenae*. Coleopt. Centralbl., Berlin 5 1931 pp. 107–115, 6 figs.

2263.—Priesner, H. Die Verschmelzung der Fühlerendglieder bei *Aptinotrips* Hal. (Ord. Thysanoptera) und ihre Ursachen. Ent. Jahrb., Leipzig 1921 pp. 162–166, 1 fig.

2264.—Priesner, H. Indomalayische Thysanopteren III. *Treubia* 12 1930 pp. 263–270.

2265.—Priesner, H. A review of the African *Haplothrips* species (Thysanoptera). Bull. Soc. ent. Egypte, Cairo 1930 1931 pp. 230–277, 2 pls. 1 fig.

2266.—Priesner, H. Contributions towards a knowledge of the Thysanoptera of Egypt, IV. Bull. Soc. ent. Egypte, Cairo 1931 pp. 127–131, 2 figs.

2267.—Priesner, H. Notes on a Hymenopterous egg parasite of *Nezara viridula*, L. Bull. Soc. ent. Egypte, Cairo 1931 pp. 137–139, 3 figs. [Hem.]

2268.—Priesner, H. Ein neues Genus aus der Familie Urothripidae. Konowia, Vienna 10 1931 pp. 93–95, 2 figs. [Thysanopt.]

2269.—Priesner, H. On the biology of *Chrysomphalus ficus* Ril. (Hem. Cocc.) with suggestions on the control of this species in Egypt. Minist. Agric. Egypt, Tech. & Sci. Serv., Plant Prot. Sect., Cairo Bull. 117 1931 19 pp.

2270.—Priesner, H. Ein neuer Blasenfuss, der Gallen an *Euphorbia hirta* verursacht. Misc. zool. sumat., Medan 58 1931 4 pp. 1 pl. 2 figs. [Thysanopt.]

2271.—Proper, W. B. *Eupteromalus nidulans*, a parasite of the brown-tail and satin moths. J. Agric. Res., Washington, D.C. 43 1931 pp. 37–56, 5 figs. [Hym.]

2272.—Prout, L. B. In SEITZ Gross-Schmett. 16 1931 Geometridae pp. 41–48, 2 pls.

2273.—Prout, L. B. A list of the Geometridae collected by Mr. C. L. Collenette in British Somaliland, with descriptions of new species. Ann. Mag. Nat. Hist., London (10) 7 1931 pp. 262–272. [Lep.]

2274.—Prout, L. B. Die Lepidoptera der Deutschen Gran-Chaco-Expedition 1925–26. II. Geometridae. Mitt. münchn. ent. Ges., Munich 21 1931 pp. 17–36.

2275.—Prout, L. B. Geometrid descriptions and notes. Novit. zool., Tring 36 1931 pp. 151–180. [Lep.]

2276.—Prout, L. B. *Spolia Mentawiensis*. Geometridae (Lepidoptera). Novit. zool., Tring 37 1931 pp. 1–17.

2277.—Prout, L. B. New Geometridae from the Indo-Australian region. Novit. zool., Tring 37 1931 pp. 18–34. [Lep.]

2278.—Prout, L. B. Three new Cuban Larentiinae (family Geometridae). Novit. zool., Tring 37 1931 pp. 133–134.

2279.—Prüffer, J. Neue Formen von Schmetterlingen Peru. [In German with Polish summary.] Arch. Biol. Soc. Sci. Varsovie 1 no. 2 1922 pp. 1–8, 2 pls. [Lep.]

2280.—Prüffer, J. Verzeichnis der Schmetterlinge aus Peru, gesammelt durch die Expeditionen von Jan Sztolcman und Konstanty Jelski. I. Teil. Papilionidae, Pieridae, Danaidae, Satyridae und Nymphalidae. [In German with Polish summary.] Arch. Biol. Soc. Sci. Varsovie 1 no. 3 1922 pp. 1–14. [Lep.]

2281.—Pruvost, P. La faune continentale du terrain houiller de la Belgique. Mem. Mus. Hist. nat. Belg., Brussels 44 1930 pp. 103–280, 14 pls. [Insects pp. 142–167.] [Fossil.]

2282.—Przibram, H. Connecting laws in animal morphology. London, University of London Press 1931 62 pp. 32 figs.

Przibram, H. see Friza & Przibram.

2283.—Puel, L. Notes sur les Caraïques. Troisième note. Ann. Soc. ent. Fr., Paris 100 1931 pp. 61–85. [Col.]

2284.—Pulkkinen, A. Animalia fennica, I. Hymenoptera Aculeata, I. Sphecidae. [In Finnish.] Helsingfors 1 1931 pp. 1–168, 99 figs.

2285.—Puri, I. M. Larvae of Anopheline mosquitoes, with full description of those of the Indian species. Ind. Med. Res. Mem., Calcutta 21 1931 227 pp. 47 pls. [Dipt.]

Puri, I. M. see Christophers & Puri.

- 2286.**—Purkyně, C. Zwei neue *Trachyploeus*-Arten vom Balkan. Acta Soc. ent. Cech., Prague **27** 1930 pp. 119–121. [Col.]
- 2287.**—Puschig, R. Von der Tierwelt des Rosentales. Carinthia II Sonderheft, Klagenfurt 1930 pp. 83–133. [Insects pp. 123–131.]
- 2288.**—Pussard, R. Sur la présence en France d'*Aphis forbesi* Weed. Rev. Path. vég. Ent. agric., Paris **18** 1931 pp. 174–179. [Hem.]
- Pussard-Radulesco, E. see Radulesco.
- 2289.**—Puzanov-Malyshev, E. V. On the habits of *Eurytoma amygdali* End., a pest of plums. [In Russian with English summary.] Rev. russe Ent., Leningrad **24** 1930 pp. 166–178, 13 figs. [Hym.]
- 2290.**—Rabeler, W. Die Fauna des Goldenitzer Hochmoores in Mecklenburg. Z. Morph. Oekol. Tiere, Berlin **21** 1931 pp. 173–315, 7 figs. [Insecta pp. 217–315.]
- 2291.**—Radu, V. Sur quelques détails de structure des cellules trachéales de l'oestre. C.R. Soc. Biol., Paris **108** 1931 pp. 710–711. [Dipt.]
- 2292.**—Radulesco, E. Pussard- Recherches biologiques et cytologiques sur quelques Thysanoptères. Ann. Epiphyties, Paris **16** (1930) 1931 pp. 103–188, 2 pls., 27 figs.
- 2293.**—Raebe, H. Die Grossschmetterlinge des oberschlesischen Hügellandes. Beuthener Abh. oberschles. Heimatforsch. no. 1-3 1931 101 pp. 4 pls. [Lep.]
- 2294.**—Raffy, A. Respiration cutanée de larves d'Hydrophiles. C.R. Soc. Biol., Paris **106** 1931 pp. 900–901. [Col.]
- 2295.**—Raffy, A. & Portier, P. Intensité des échanges respiratoires pendant le vol chez les Lépidoptères. C.R. Soc. Biol., Paris **108** 1931 pp. 1062–1064.
- 2296.**—Raignier, A. Het orientatievermogen der mieren. Natura, Amsterdam 1931 pp. 125–128, 3 figs. [Hym.]
- 2297.**—Raignier, A. Hoe vinden de mieren den weg? Beslissende proeven. Natuurh. Maandbl., Maastricht **20** 1931 pp. 54–56, 1 fig. [Hym.]
- Rakovska, M.** see Demianovskii & Rakovska.
- 2298.**—Ramakrishna Ayyar, T. V. & Margabandhu, V. Notes on Indian Thysanoptera with brief descriptions of new species. J. Bombay Nat. Hist. Soc. **34** 1931 pp. 1029–1040, 2 pls. 1 fig.
- 2299.**—Rambousek, F. How to collect insects that live in water and on river banks. [In Czech.] Acta Soc. ent. Cech., Prague **27** 1930 p. 130.
- 2300.**—Ramme, W. Verlust oder Herabsetzung der Fruchtbarkeit bei macropteren Individuen sonst brachypterer Orthopterenarten. Biol. Zbl., Leipzig **51** 1931 pp. 533–540, 3 figs.
- 2301.**—Ramme, W. Ergänzungen und Berichtigungen zu meiner Arbeit "Afrikanische Acrididae" (Orth.). Mitt. zool. Mus. Berlin **16** (1930) 1931 pp. 918–945, 1 pl. 17 figs.
- 2302.**—Ramme, W. Beiträge zur Kenntnis der palaearktischen Orthopterenfauna (Tettig. et Acrid.). Mitt. zool. Mus. Berlin **17** 1931 pp. 165–200, 1 pl. 13 figs.
- 2303.**—Ramme, W. Systematisches, Verbreitung und Morpho-Biologisches aus der Gryllacriden-Unterfamilie Schizodactylinae (Orth.). Z. Morph. Oekol. Tiere, Berlin **22** 1931 pp. 163–172, 11 figs.
- 2304.**—Ramme, W. Eine *Podismopsis* (Orth. Acrid.) aus Südeuropa. Zool. Anz., Leipzig **93** 1931 pp. 123–126, 2 figs.
- 2305.**—Rapp, O. Panzers Fauna Insectorum Germanicae initia und der Catalogus coleopterorum Europae etc. vom Jahre 1906. Mitt. ent. Ges. Halle a.S., Berlin **12** 1919 pp. 9–11.
- 2306.**—Rau, P. An additional note on the behaviour of hibernating *Polistes* wasps. Ann. Ent. Soc. Amer., Columbus **24** 1931 pp. 515–518. [Hym.]
- 2307.**—Rau, P. The cocooning habit of the wasp, *Monobia quadridens*. Bull. Brooklyn Ent. Soc. **26** 1931 pp. 4–6. [Hym.]
- 2308.**—Rau, P. An unusual nest of the yellow-jacket, *Vespa germanica*. Bull. Brooklyn Ent. Soc. **26** 1931 pp. 85–88, 1 pl. [Hym.]
- 2309.**—Rau, P. The nests and nesting sites of four species of *Polistes* wasps. Bull. Brooklyn Ent. Soc. **26** 1931 pp. 111–118, 1 pl. [Hym.]

2310.—Rau, P. *Polistes* wasps and their use of water. Ecology, Brooklyn, N.Y. 12 1931 pp. 690–693. [Hym.]

2311.—Rau, P. The night flight of diurnal butterflies (Lepid.). Ent. News, Philadelphia 42 1931 pp. 24–25.

2312.—Rau, P. Notes on the homing of several species of wasps (Hym.: Chrysididae, Sphegoidea, Vespoidea). Ent. News, Philadelphia 42 1931 pp. 199–200.

2312a.—Rau, P. The nesting habits of *Polistes rubiginosus*, with special reference to pleometrosis in this and other species of *Polistes* wasps. Psyche, Boston 38 1931 pp. 129–144, 6 figs [Hym.]

2313.—Rauchfuss, W. Ein interessantes Hochtal der Schweiz. Ent. Z., Frankfurt a. M. 45 1931 pp. 147–152.

2314.—Rauschmayer, F. Das Verfliegen der Bienen und die optische Orientierung am Bienenstand. Arch. Bienenkunde, Neumünster i. Holstein 9 1928 pp. 249–322, 7 figs. [Hym.]

2315.—Ravetta, E. Il poliploidismo delle cellule somatiche dei Ditteri. Boll. Zool., Naples 2 1931 pp. 47–56, 4 figs. [Dipt.]

2316.—Rawson, D. S. The bottom fauna of Lake Simcoe and its rôle in the ecology of the lake. Univ. Toronto Studies Biol. Ser. 34 1930 pp. 1–183, 5 pls. [Insecta pp. 40–59.]

2317.—Rayment, T. Notes on a collection of bees from Western Australia. J. Roy. Soc. W. Aust., Perth 16 1930 pp. 45–56, 2 pls. [Hym.]

2318.—Rayment, T. Studies in Australian bees. A dweller among the reeds: *Gnathoprosopis marianella* Rayment. Vict. Nat., Melbourne 47 1931 pp. 135–141, 1 pl.

2319.—Rayment, T. The furrow-bees and a fly. Vict. Nat., Melbourne 47 1931 pp. 184–191, 2 figs.

2320.—Raymundo, B. Nomenclatura popular dos Lepidópteros do Distrito Federal e seus arredores. O Campo, Rio de Janeiro 2 1931 nos. 1–2, pp. 52–53, no. 2 pp. 26–27, 13 figs.

2321.—Radio, P. A. Dormancy in *Reduvius personatus* (Linnaeus). Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 19–39, 11 figs. [Hem.]

2322.—Rebel, H. Diagnosen neuer Lepidopteren aus Südarabien und von der Insel Sokotra. Anz. Akad. Wiss. Wien 36 1899 pp. 359–361.

2323.—Rebel, H. Zoologische Ergebnisse der Expedition der kaiserlichen Akad. der Wissenschaft nach Südarabien und Sokotra im Jahre 1898–99. Lepidoptera. Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931 pp. 31–130, 1 pl. 41 figs.

2324.—Rebel, H. Ueber den biologischen Wert von Larvensozietäten. SitzBer. Akad. Wiss. Wien 140 1931 Abt. 1 pp. 231–234. [Lep.]

2325.—Rebel, H. Zwei neue Gelechiidae aus Andalusien. Z. öst. EntVer., Vienna 16 1931 pp. 57–59. [Lep.]

Reed, W. D. see Hamlin, Reed & Phillips.

2326.—Regen, J. Ueber den Aufbau der Stridulationslaute der saltatoren Orthopteren. SitzBer. Akad. Wiss. Wien 139 1930 Abt. 1 pp. 539–544.

2327.—Regnier, P., Lespes, L. & Rungs, C. Sur l'habitat de *Schistocerca gregaria* Forsk. et la succession des générations chez cette espèce. C.R. Acad. Sci. Fr., Paris 192 1931 pp. 1485–1487. [Orth.]

2328.—Rehfsous, M. Présentation de quelques races de *Lasiocampa quercus*. Bull. Soc. lép. Genève 6 1931 pp. 125–126.

2329.—Rehn, J. A. G. Descriptions of one new genus and fifteen new species of Tropical American Orthoptera. Trans. Amer. Ent. Soc., Philadelphia 44 1918 pp. 321–371, 3 pls.

2330.—Rehn, J. A. G. On the Blattid genera *Abrodoiaeta* Brunner (= *Allacta* Saussure and Zehnter) and *Margattea* Shelford (Orthoptera). Trans. Amer. Ent. Soc., Philadelphia 57 1931 pp. 297–304, 1 fig.

2331.—Rehn, J. A. G. Studies in African Acrydiinae (Orthoptera, Acrididae). Part I. Sections Cladonotae, Scelimeae and Metrodora. Proc. Acad. Nat. Sci. Philadelphia 82 (1930) 1931 pp. 91–137, 4 pls.

2332.—Rehn, J. A. G. & Hebard, M. A study of the North American Eumastacinae (Orthoptera; Acrididae). Trans. Amer. Ent. Soc., Philadelphia 44 1918 pp. 223–250, 6 pls.

2333.—Reichardt, A. Histeridae (pp. 1–26, 3 figs.), Tenebrionidae (pp. 27–30, 1 fig.). [In Russian with German summary.] Abh. Pamir Exped. 1928, Leningrad 2 1930. [Col.]

2334.—Reichardt, A. Sur un nouveau représentant du genre *Philothis* Rehd. (Coleoptera, Histeridae). [In Russian with Latin description.] C.R. Acad. Sci. U.R.S.S., Leningrad (A) 1931 pp. 308–311, 4 figs.

2335.—Reichensperger, A. Zwei neue Clavigerinen aus Costa Rica (Coleopt. Pselaph.). Ent. Bl., Berlin 27 1931 pp. 4–7, 2 figs.

2336.—Reichensperger, A. Beitrag zur Kenntnis der Termitoxeniidae (Dipt.). Zool. Anz., Leipzig 93 1931 pp. 289–306, 10 figs.

2337.—Reichensperger, A. Die Wirte der *Mesynodites*-Gruppe nebst Beschreibung neuer ecitophiler und termitophiler Histeridenarten (Coleopt. Hist.). Zool. Jahrb., Jena, Syst. 61 1931 pp. 263–284, 1 pl. 3 figs.

2338.—Reinhard, H. J. The two-winged flies belonging to *Siphosturmia* and allied genera, with descriptions of two new species. Proc. U.S. Nat. Mus., Washington, D.C. 79 art. 11 no. 2877 1931 11 pp. [Dipt.]

2339.—Reinhard, H. J. Revision of the American parasitic flies belonging to the genus *Winthemia*. Proc. U.S. Nat. Mus., Washington, D.C. 79 art. 20 no. 2886 1931 54 pp. 1 pl. [Dipt.]

2340.—Reinig, W. F. Ueber die Zusammensetzung der hochmontanen Apiden-Fauna der Pamire (Hym.). Deuts. ent. Z., Berlin 1931 pp. 60–64.

2341.—Reinig, W. F. Entomologische Ergebnisse der Deutsch-Russischen Alai-Pamir-Expedition 1928 (II). 5. Coleoptera II. Tenebrionidae. Mitt. zool. Mus. Berlin 16 (1930) 1931 pp. 865–912, 9 figs.

2342.—Reiss, H. In SEITZ Gross-Schmett. Suppl. 2 1931 Zygaenidae pp. 49–50, 1 pl.

2343.—Reiss, H. Die Zygaenen-fauna der Umgebung von Balçic an der rumänischen Silberküste. Int. ent. Z., Guben 25 1931 pp. 97–100. [Lep.]

2344.—Reiss, H. Die Formen der *Zygaena scabiosae* Schev. in Spanien und Portugal. Erläuterung und Ergänzung zu Seitz Supplement II “*Zygaena*,” Int. ent. Z., Guben 25 1931 pp. 109–114, 1 pl. [Lep.]

2345.—Reiss, H. Einige bemerkenswerte neue Rassen der Gattung *Zygaena* F. (Lep.) aus dem Tring Museum. Int. ent. Z., Guben 25 1931 pp. 341–345, 15 figs.

2346.—Reisser, H. Acidaliinen (Lep., Geom.) aus der Sierra Nevada. Int. ent. Z., Guben 24 1931 pp. 453–456, 1 pl.

2347.—Reith, F. Versuche über die Determination der Keimesanlage bei *Camponotus ligniperda*. Z. wiss. Zool., Leipzig 139 1931 pp. 664–734, 35 figs. [Hym.]

2348.—Remy, P. Observations sur les mœurs de quelques Orthoptères cavernicoles. Ann. Sci. nat. (Zool.), Paris (10) 14 1931 pp. 263–274.

2349.—Rex, E. G. A wire beetle receptacle for Japanese beetle traps. J. New York Ent. Soc. 39 1931 pp. 593–596, 2 pls.

2351.—Reznichenko, M. S. On the determination of the hydrogen-ion concentration in small quantities of fluid (insect blood) by means of a micro-chinhydron electrode. [In Russian with English summary.] Oput. Paseka [? Tula] 1930 pp. 329–334, 3 figs.

Reznichenko, M. S. see Kosmina, Alpatov & Reznichenko.

2352.—Rhe-Philipe, G. W. V. de. The butterflies of the Simla Hills. J. Bombay Nat. Hist. Soc. 35 1931 pp. 172–183, 415–420.

2353.—Ribeiro, V. de M. Lepidopteros de Matto Grosso. Bol. Mus. nac., Rio de Janeiro 7 1931 pp. 31–52.

2354.—Richards, jr., A. G. Sub-sub-specific names in Lepidoptera. Ent. News, Philadelphia 42 1931 pp. 213–216.

2355.—Richards, jr., A. G. Nocuidae of Northern Georgia and Tennessee (Lepidoptera). Ent. News, Philadelphia 42 1931 pp. 247–252, 271–276.

2356.—Richards, M. H. The influence of environment on inheritance of two characters in *Drosophila*. Univ. Oklahoma Bull. **9** 1929 pp. 28–30. [Dipt.]

2357.—Richards, O. W. Diptera of Patagonia and South Chile based mainly on material in the British Museum (Natural History). Part VI. Fasc. 2—Sphaeroceridae (Borboridae). London, Br. Mus. (Nat. Hist.) 1931 pp. 62–84, 2 figs. 1 pl.

2358.—Richards, O. W. A new species of Indian humble-bee in the collection of the British Museum (Hymenoptera, Bombidae). Ann. Mag. Nat. Hist., London (10) **8** 1931 pp. 529–533, 2 figs.

2359.—Richards, O. W. A little-known species of *Trypoxylon* (Hymenoptera, Sphecoidea). Ent. Mon. Mag., London **67** 1931 pp. 244–246.

2360.—Richards, O. W. Insects fertilising *Orchis maculata* L. near Oxford. Proc. Ent. Soc. London **6** 1931 p. 59.

2361.—Richards, O. W. Some notes on the humble-bees allied to *Bombus alpinus*, L. Tromsø Mus. Arsh. **50** (1927) 1931 no. 6 32 pp. 2 pls. [Hym.]

2362.—Richardson, C. H., Burdette, R. C. & Eagleson, C. W. The determination of the blood volume of insect larvae. Ann. Ent. Soc. Amer., Columbus **24** 1931 pp. 503–507.

2363.—Richmond, E. A. The external morphology of *Hydrophilus obtusatus* Say (Coleoptera: Hydrophilidae). J. New York Ent. Soc. **39** 1931 pp. 191–233, 9 pls.

2364.—Riedel, M. P. Tachinidae. ii. Ent. Anz., Vienna **11** 1931 pp. 397–400. [Dipt.]

Riel, P. *see* Bouvier & Riel.

2365.—Ries, —. Die symbiontischen Einrichtungen der Läuse und Mallophagen. Jber. schles. Ges. vaterl. Cultur, Breslau **1930** 1931 pp. 35–38.

2366.—Ries, E. Die Symbiose der Läuse und Federlinge. Z. Morph. Oekol. Tiere, Berlin **20** 1931 pp. 233–367, 74 figs. [Anoplura, Mallophaga.]

2367.—Riley, N. D. Two new *Charaxes* from southern Arabia. Entomologist, London **64** 1931 pp. 279–280. [Lep.]

Riley, N. D. *see* Thomas et al.

2368.—Ringdahl, O. Fünf neue Fliegenformen aus Island. Ent. Tidskr., Stockholm **51** 1930 p. 173. [Dipt.]

Ringdahl, O. *see* Sjöstedt et al.

2369.—Ripley, L. B. & Hepburn, G. A. Further studies on the olfactory reactions of the Natal fruit-fly, *Pterandrus rosa* (Ksh.). Ent. Mem. Dept. Agric. Un. S. Africa, Pretoria **7** 1931 pp. 24–81, 6 figs. [Dipt.]

2370.—Ripper, W. Ueber blattminierende Tenthrediniden-Larven an Birken. Z. PflKrankh., Stuttgart **41** 1931 pp. 183–191, 10 figs. [Hym.]

2371.—Ripper, W. Versuch einer Kritik der Homologiefrage der Arthropodentracheen. Z. wiss. Zool., Leipzig **138** 1931 pp. 303–369, 18 figs. [Insects pp. 319–326.]

2372.—Ris, F. A revision of the Libelluline genus *Perithemis* (Odonata). Misc. Pub. Univ. Michigan Mus. Zool., Ann Arbor no. **21** 1930 50 pp. 9 pls.

2373.—Ris, F. Odonata aus Süd-Angola. Rev. suisse Zool., Geneva **38** 1931 pp. 97–112, 5 figs.

2374.—Ritcher, P. O. An undescribed species of Simuliid larva and the corresponding pupa (Diptera: Simuliidae). Ent. News, Philadelphia **42** 1931 pp. 241–246, 1 pl.

Roark, R. C. *see* Laake, Parman, Bishopp & Roark.

2375.—Röber, J. Neue exotische Falter. Int. ent. Z., Guben **24** 1931 pp. 389–393, 6 figs. [Lep.]

2376.—Röber, J. Ueber einige Falter. Int. ent. Z., Guben **25** 1931 pp. 337–338, 1 fig. [Lep.]

2377.—Roberts, A. W. R. A note on the hatching of some weevils (Curculionidae) from the egg. Ann. Mag. Nat. Hist., London (10) **8** 1931 pp. 593–596. [Col.]

2378.—Robertson, C. Position of Strepsiptera on hosts. III. Bull. Brooklyn Ent. Soc. **26** 1931 pp. 45–46. [Col.]

2379.—Robertson, W. R. B. Hybrid vigor—a factor in Tettigid parthenogenesis? Amer. Nat., New York **65** 1931 pp. 165–172. [Orth.]

2380.—Robertson, W. R. B. A permanent chromosomal translocation induced by X-rays in *Apotettix eurycephalus* Hancock. *Anat. Rec., Philadelphia* **51** 1931 suppl. p. 120. [Orth.]

2381.—Robertson, W. R. B. On the origin of partheno-produced males in Tettigidae (*Apotettix* and *Paratettix*). *Genetics, Menasha* **16** 1931 pp. 353–356. [Orth.]

2382.—Robertson, W. R. B. Chromosome studies. II. Synapsis in the Tettigidae, with special reference to the presynapsis split. *J. Morph., Philadelphia* **51** 1931 pp. 119–146, 6 pls. [Orth.]

2383.—Robinson, W. The thermopile for temperature determinations in entomology. *Ann. Ent. Soc. Amer., Columbus* **24** 1931 pp. 417–423, 5 figs.

2384.—Rocci, U. Osservazioni lepidotterologiche. *Boll. Soc. ent. ital., Genoa* **63** 1931 pp. 90–98.

2385.—Rocci, U. Contributo alla conoscenza di *Nytha arethusa* Esp. (Lepid.—Satyr.). *Boll. Soc. ent. ital., Genoa* **63** 1931 pp. 127–133.

2386.—Rocci, U. Ricerche sulle modalità de schiusura e le forme di variazione della cosiddetta *Melitaea athalia* Rott. (Lepid. — Nymphal.). *Mem. Soc. ent. ital., Genoa* **10** 1931 pp. 10–35, 2 pls.

2387.—Rockwood, L. P. & Zimmerman, S. K. A seed caterpillar, *Grapholitha conversana* Wlsm., on a native clover in the north Pacific region. *J. Agric. Res., Washington, D.C.* **43** 1931 pp. 57–65, 5 figs.

2388.—Rodeck, H. G. Rocky Mountain Bees. IV. *Amer. Mus. Nov., New York* no. **496** 1931 11 pp. 1 fig. [Hym.]

2389.—Rogers, E. The effect of temperature on the oxygen consumption of an insect, *Melanoplus differentialis*. *Physiol. Zool., Chicago* **2** 1929 pp. 275–283, 2 figs. [Orth.]

2390.—Rogers, K. St. A. Observations on migrating butterflies in the Nairobi district: April 1930. *Proc. Ent. Soc. London* **5** 1931 p. 65. [Lep.]

Rogers, K. St. A. see van Someren & Rogers.

2391.—Rohdendorf, B. Records of Tachinidae (Larvaevoridae) with new African species (Dipt.). *Ann. Mag. Nat. Hist., London* (10) **8** 1931 pp. 347–351, 5 figs.

2392.—Ro[h]dendorf, B. B. A Tachinid fly bred from the pupae of *Laphygma exigua* Hubn., a cotton pest in Turkmenia. [In Russian with German summary.] *Plant Prot., Leningrad* **8** 1931 pp. 87–92, 5 figs. [Dipt., Lep.]

2393.—Roman, A. Entomologische Ergebnisse der schwedischen Kamtschatka-Expedition 1920–1922. 33. Ichneumonidae, Subfamilien Pimplinae und Tryphoninae. *Ark. Zool., Stockholm* **23A** no. 6 1931 pp. 1–32. [Hym.]

2394.—Roman, A. Nachtrag zu den Ichneumoniden Islands. Göteborgs VetenskSamh. Handl. (5B) **2** no. 4 1931 pp. 1–11. [Hym.]

Roman, A. see Schütze & Roman, Sjöstedt et al.

2395.—Roman, E. La coque de nymphose de la Bruche du haricot (Col. Lariidae). *Bull. Soc. ent. Fr., Paris* **1931** pp. 162–166, 3 figs.

2396.—Romaschoff, D. D. & Balkaschina, E. J. Beiträge zur Genetik der *Drosophila funebris* F. Z. indukt. Abstamm.-u. VererbLehre, Leipzig **58** 1931 pp. 1–80, 18 figs. [Dipt.]

2397.—Rona, P., Parfentjev, J. A. & Lippmann, H. Die Oxydationskatalysatoren der Insekten. *Biochem. Z., Berlin* **223** 1930 pp. 205–212, 4 figs.

2398.—Rosas Costa, J. A. Literatura nacional y extranjera producida sobre Ortópteros argentinos. *Mem. Jardin zool. La Plata* **2** 1930 pp. 62–91.

2399.—Rösch, G. A. Untersuchungen über die Arbeitsteilung im Bienenstaat. 2. Teil: Die Tätigkeiten der Arbeitsbienen unter experimentell veränderten Bedingungen. *Z. vergl. Physiol., Berlin* **12** 1930 pp. 1–71, 25 figs. [Hym.]

Rose, E. J. see Beckwith & Rose.

2400.—Rosen, K. von. Die Lepidoptera der Deutschen Gran-Chaco-Expedition 1925–26. I. Sphingidae. *Mitt. münchn. ent. Ges., Munich* **21** 1931 pp. 15–16.

2401.—Ross, H. H. Notes on the sawfly subfamily Tenthredininae, with descriptions of new forms (Hymenoptera, Tenthredinidae). *Ann. Ent. Soc. Amer. Columbus* **24** 1931 pp. 108–128.

2402.—Ross, H. H. Sawflies of the sub-family Dolerinae of America north of Mexico. *Illinois Biol. Monog., Urbana* **12** (1929) 1931 pp. 211–320, 6 pls. [Hym.]

2403.—Ross, J. The gall of *Andricus seminationis*. *London Naturalist* **1930** 1931 pp. 137–138. [Hym.]

2404.—Rostrup, S. & Thomsen, M. Die tierischen Schädlinge des Ackerbaues. Berlin, Parey 1931 xi + 367 pp. 236 figs.

2405.—Rothke, M. Einige Notizen über Vorkommen und Lebensgewohnheit von *Pieris napi* L. in Nordamerika. *Int. ent. Z., Guben* **25** 1931 pp. 262–263. [Lep.]

2406.—Rothschild, Lord. List of Lepidoptera collected by Dr. Ernst Hartert and Mr. Frederick Young in Morocco in 1930. *Novit. zool., Tring* **36** 1931 pp. 191–200.

2407.—Rothschild, Lord. Notes on Syntomidae (Amatidae) with descriptions of new species. *Novit. zool., Tring* **37** 1931 pp. 149–158. [Lep.]

2408.—Rotter, E. African races of honey-bees. *Bee World, Camberley, Surrey* **12** 1931 pp. 67–68. [Hym.]

2409.—Roubal, J. Katalog Coleopter (Brouku) Slovenska a Podkarpatska. I. Prague 1930 527 pp.

2410.—Roubal, J. Quelques additions à Schenkling Junk, *Coleopterorum catalogus*. *Acta Soc. ent. Čech., Prague* **27** 1930 pp. 5–6.

2411.—Roubal, J. Coleoptera nova ex Europa descripta. *Acta Soc. ent. Čech., Prague* **27** 1930 pp. 75–76.

2412.—Roubal, J. A note to the new proposition about the consideration of aberrations (forms). [In Czech and English.] *Acta Soc. ent. Čech., Prague* **27** 1930 pp. 76–78.

2413.—Roubal, J. Fragmente zur Kolepterenfaunistik des balkanischen Festlandes. *Ent. Anz., Vienna* **11** 1931 pp. 311–312, 362–363, 393–396, 437–438, 453–454. [Col.]

2414.—Roubal, J. Einige neue palaearktische Koleopteren. *Ent. Bl., Berlin* **27** 1931 pp. 183–185.

2415.—Roubal, J. Coleopterologische Notizen. *Ent. NachrBl., Troppau* **5** 1931 pp. 36–37, 83–84.

2416.—Roubal, J. Elateriden-Notizen. *Ent. NachrBl., Troppau* **5** 1931 pp. 82–83. [Col.]

2417.—Roubal, J. De Scydmaenidarum (Coleoptera) genere *Euthia* Steph. in Slovakia. [In Czech.] *Sborn. Přírod. odboru Slovensk. vlastiv. Muz. Bratislave* **1924–31** 1931 reprint 5 pp.

2418.—Roubal, J. Bemerkungen über einige Choleven, nebst Beschreibung einer neuen Subspecies. *Wien. ent. Ztg.* **48** 1931 pp. 214–218. [Col.]

2419.—Roubaud, E. Sur l'auto-génèse chez *Culex pipiens*. *Bull. Soc. Path. exotique, Paris* **24** 1931 pp. 384–387. [Dipt.]

2420.—Roubaud, E. Fatigue évolutive cyclique et lignées infatigables chez la mouche verte commune *Lucilia sericata* Meig. *C.R. Acad. Sci. Fr., Paris* **193** 1931 pp. 204–205. [Dipt.]

2421.—Roubaud, E. Recherches expérimentales sur les générations et les phases biologiques de l'*Anopheles maculipennis*. *Riv. Malariol., Rome* **10** 1931 pp. 1–42, 1 pl. 12 figs. [Dipt.]

2422.—Rowe, J. A. A revision of the males of the Nearctic species in the genus *Fabriciella* (Tachinidae). *Ann. Ent. Soc. Amer., Columbus* **24** 1931 pp. 643–678, 4 pls. [Dipt.]

2423.—Roy, D. N. The natural breeding habits of *A. stephensi* as observed in Calcutta. *Ind. J. Med. Res., Calcutta* **19** 1931 pp. 617–628. [Dipt.]

2424.—Roy, D. N. On the ovulation of *A. stephensi*. *Ind. J. Med. Res., Calcutta* **19** 1931 pp. 629–634. [Dipt.]

2425.—Roy, D. N. On the breeding habits of *A. stephensi* as observed in the laboratory. *Ind. J. Med. Res., Calcutta* **19** 1931 pp. 635–639. [Dipt.]

2426.—Roy, D. N. & Mayne, B. A note on the presence of supernumerary lobes in salivary glands of Anopheline mosquitoes. *Parasitology, Cambridge* **23** 1931 pp. 77–78, 1 pl. [Dipt.]

Rozhdestvenskaya, V. A. see Alpatov & Rozhdestvenskaya.

2427.—Rozsypal, J. The sugar-beet pest, *Bothynoderes punctiventris* Germ. and its natural enemies. [In Czech with English summary.] Bull. Ecole sup. Agron. Brno **C16** 1930 91 pp. 41 figs. [Col.]

2428.—Rudnev, D. F. Notes on the biology of *Cerambyx scopolii* Laich. [In Russian.] Plant Prot., Leningrad **7** 1931 pp. 245–248. [Col.]

2429.—Rühle, H. Die Riechporen der Lepidopteren. Int. ent. Z., Guben **25** 1931 pp. 182–187, 3 figs.

2430.—Rukavishnikov, B. I. Contributions to the study of the flies parasitic on the larval and adult instars of the migratory locust. [In Russian with English summary.] Bull. Plant Prot., Ent., Leningrad **1** 1930 pp. 191–261, 1 pl. 36 figs. [Orth., Dipt.]

2431.—Rummel, L. Beiträge zur Experimentalbiologie. *Vanessa polychloros* L. ab. *pyromelas* Fr. (Lepidopt.). Ent. Z., Frankfurt a. M. **45** 1931 pp. 158–159.

Rungs, C. see Regnier, Lespes & Rungs.

2432.—Rüschkamp, F. Zur rheinischen Käferfauna. X–XI. Ent. Bl., Berlin **27** 1931 pp. 7–13, 134–141.

2433.—Russell, P. F. Daytime resting places of *Anopheles* mosquitoes in the Philippines. First Report. Philipp. J. Sci., Manila **46** 1931 pp. 639–649, 4 pls. [Dipt.]

2434.—Russo, G. Contributo alla conoscenza degli Scolitidi. II. Lo Scolitide del mandorlo: *Scolytus amygdali* (Guér.). Note biologiche. Boll. Lab. Zool. Portici **25** 1931 pp. 327–349, 6 figs. [Col.]

2435.—Ruzsky, M. D. Materialien zu Fauna des Kurorts See Karatschi. [In Russian.] Ber. Tomsker Staats. Univ. **75** 1925 pp. 283–290.

2436.—Saalas, U. Ueber die Verbreitung der Borkenkäfer (Ipidae) in Finnland. Mit besonderer Berücksichtigung ihres Vorkommens in den nördlichen Waldgrenzen. Verh. deuts. Ges. angew. Ent. 8. Mitgliederversamml. Rostock Aug. 1930, Parey, Berlin 1931 pp. 65–71, 3 figs. [Col.]

2437.—Sack, P. Syrphidae. In LINDNER Flieg. Palaearkt. Reg. **31** 1931 pp. 241–336, 4 pls. 48 figs.

2438.—Sack, P. Syrphidae (Diptera) der deutschen limnologischen Sunda-Expedition. Arch. Hydrobiol., Stuttgart Suppl. **8** 1931 pp. 585–592, 8 figs.

2439.—St. George, R. A. The larva of *Boros unicolor* Say and the systematic position of the family Boridae Herbst. Proc. Ent. Soc. Washington **33** 1931 pp. 103–113, 2 pls. [Col.]

2440.—Saint-Hilaire, K. Ueber Vorderdarm-Anhänge bei *Lophyrus*-Larven und ihre Bedeutung. Z. Morph. Oekol. Tiere, Berlin **21** 1931 pp. 608–616, 11 figs. [Hym.]

2441.—Saint-Périer, R. de. Observations sur *Elatér sanguineus*. Bull. Soc. Sci. Seine-et-Oise, Versailles (2) **12** 1931 p. 78. [Col.]

2442.—Salem, H. H. Some observations on the structure of the mouth-parts and fore-intestine of the fourth stage larva of *Aedes (Stegomyia) fasciata* (Fab.). Ann. Trop. Med. Parasit., Liverpool **25** 1931 pp. 393–419, 14 figs.

2443.—Salfi, M. Sull' ortottero-fauna cirenaica. Boll. Zool., Naples **1** 1930 pp. 55–59.

2444.—Salfi, M. Orthoptera palae-arectica critica. X. Révision du genre *Platypterna* Fieber (Acrid.). Eos, Madrid **7** 1931 pp. 255–347, 272 figs.

2445.—Salt, G. Three bees from Baltic Amber. Bernsteinforsch., Berlin **2** 1931 pp. 136–147, 3 figs. [Fossil Hym.]

2446.—Salt, G. Parasites of the wheat-stem sawfly, *Cephus pygmaeus*, Linnaeus, in England. Bull. Ent. Res., London **22** 1931 pp. 479–545, 29 figs. [Hym.]

2447.—Salt, G. A further study of the effects of stylopization on wasps. J. Exp. Zool., Philadelphia **59** 1931 pp. 133–166, 2 pls. [Hym.]

2448.—Salt, G. The “false-head” of many Colombian Lycaenid butterflies; also mimicry of Aculeate models by Colombian moths. Proc. Ent. Soc. London **6** 1931 pp. 19–22. [Lep.]

Salt, G. see Bequaert & Salt.

2449.—Sámal, J. The nymphs of Ephemeridae from Czecho-slovakia. [In Czech with English summary.] Acta Soc. ent. Čech., Prague **27** 1930 pp. 7–13, 12 figs.

- 2450.—Sámal, J. Can *Ephemera danica* Müll. be called a real species? [In Czech with English summary.] Acta Soc. ent. Čech., Prague 27 1930 pp. 93–99, 5 figs. [Ephemeropt.]
- 2451.—Sámal, J. Klapálek's collection of the may-flies (Ephemeroidea) in the National Museum, Praha, Czechoslovakia. [In Czech with English summary.] Sborník ent. odd. Nár. Mus. Praze 8 1930 pp. 53–54.
- 2452.—Sámal, J. Ein Versuch der Revision der südamerikanischen Gattung *Diamphipnoa* Gerstaecker (Perl.). Stettin. ent. Ztg. 92 1931 pp. 266–274, 13 figs. [Plecopt.]
- 2453.—Samko, K. P. An addition to the knowledge of the entomological fauna of the Tobolsk district. iii. Hemiptera—Heteroptera. [In Russian.] Izv. W. Siberian Sect. Russ. Geogr. Soc., Omsk 7 1930 pp. 165–179.
- 2454.—Sanchez y Sanchez, D. Les agents histolysants du système nerveux des insectes. Trav. Lab. Recherch. biol. Univ. Madrid 25 1927 pp. 1–39.
- 2455.—Santschi, F. Nouvelles expériences sur l'orientation des fourmis du genre *Tapinoma*. Acta Soc. ent. Čech., Prague 27 1930 pp. 46–53, 4 figs. [Hym.]
- 2456.—Santschi, F. Contribution à l'étude des fourmis de l'Argentine. An. Soc. ci. argent., Buenos Aires 112 1931 pp. 273–282, 10 figs. [Hym.]
- 2457.—Santschi, F. La reine du *Dorylus fulvus* Westw. Bull. Soc. Hist. nat. Afr. N., Algiers 22 1931 pp. 401–408, 1 fig. [Hym.]
- 2458.—Santschi, F. Inventa entomologica itineris Hispanici et Marocani quod a. 1926 fecerunt Harald et Håkan Lindberg. ix. Fourmis du Bassin Méditerranéen Occidental et du Maroc récoltées par MM. Lindberg. Comment. Biol. Soc. Sci. Fenn., Helsingfors 3 1931 no. 14 pp. 1–13, 1 fig. [Hym.]
- 2459.—Santschi, F. Fourmis de Cuba et de Panama. Rev. Ent., São Paulo 1 1931 pp. 265–282, 17 figs. [Hym.]
- 2460.—Santschi, F. Notes sur le genre *Myrmica* (Latreille). Rev. suisse Zool., Geneva 38 1931 pp. 335–353, 16 figs. [Hym.]
- 2461.—Sasaki, C. Studies on *Urosema mori* n. sp. and *Trichomomyia maculata* n. sp. injurious to Mulberry. [In Japanese.] Tokyo, Kogaku-Kwai 1931 24 pp. 9 figs. [Dipt.]
- 2462.—Sato, H. Untersuchungen über die künstliche Parthenogenese des Seidenspinners *Bombyx mori*. iv. Biol. Zbl., Leipzig 51 1931 pp. 382–394, 12 figs. [Lep.]
- 2463.—Satterthwait, A. F. Key to known pupae of the genus *Calendra*, with host-plant and distribution notes. Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 143–172, 3 pls. [Col.]
- 2464.—Satterthwait, A. F. *Anaphoidea calendrae* Gahan, a Mymarid parasite of eggs of weevils of the genus *Calendra*. J. New York Ent. Soc. 39 1931 pp. 171–190, 2 figs. [Col., Hym.]
- 2465.—Sá Vargas, D. de. Observações acerca de algumas espécies de Dermápteros e Ortópteros existentes nas Coleções do Laboratório de Biologia Florestal. Arq. Secc. Biol. Parasit., Univ. Coimbra 1 1930 pp. 283–306.
- Savenkoy, A. N. see Lebedev & Savenkoy.
- 2466.—Sayers, G. F. Handbook of Tanganyika Territory. London, Macmillan & Co. 1930 x + 636 pp. 9 maps 25 pls. [Insects: Lep. pp. 460–464.]
- 2467.—Scalon, O. Thysanoptères nouveaux pour la Sibérie. Konowia, Vienna 10 1931 pp. 89–92.
- Scegoleva-Barovskaja see Shchegoleva-Barovskaja.
- 2468.—Schaeffer, C. On a few new and known Coleoptera. Bull. Brooklyn Ent. Soc. 26 1931 pp. 174–176.
- 2469.—Schaeffer, C. New species of *Disonychia* and notes (Col. Chrysomelidae). J. New York Ent. Soc. 39 1931 pp. 279–285.
- 2470.—Schaefer, P. E. The alimentary canal of *Sphaeroderus nitidicollis* Chev. var. *schaumi* Chd. (Coleoptera). Ohio J. Sci., Columbus 31 1931 pp. 406–415, 4 pls.
- Schaposchnikow, A. see Spett & Schaposchnikow.
- 2471.—Schawerda, C. Alte und neue interessante Lepidopteren. Mitt. münchn. ent. Ges., Munich 20 (1930) 1931 pp. 133–139, 1 pl.

2472.—Schawerda, K. Aragonensia. Mitt. münchn. ent. Ges., Munich 21 1931 pp. 52–57, 1 pl. [Lep.]

2473.—Schawerda, K. Meine sechste Lepidopteren-Ausbeute aus den Bergen Korsikas. Z. öst. EntVer., Vienna 16 1931 pp. 17–22, 31–37, 41–45, 52–56, 59–61.

2474.—Schedl, K. E. Notes on the genus *Xyleborus*, Eichh. Ann. Mag. Nat. Hist., London (10) 8 1931 pp. 339–347. [Col.]

2475.—Schedl, K. Notes on the Pityophthorinae (Coleoptera Ipidae). II. Three new species. Canad. Ent., Orillia 63 1931 pp. 163–168, 1 pl.

2476.—Schedl, K. E. Morphology of the bark-beetles of the genus *Gnathotrichus* Eichh. Smiths. Misc. Coll., Washington 82 1931 no. 10 88 pp. 40 figs.

2477.—Schedl, K. Der Hemlockspanner *Ellopia fuscicollaria* Hb. und seine natürlichen Feinde. Z. angew. Ent., Berlin 18 1931 pp. 219–275, 32 figs. [Lep.]

2478.—Scheerpeltz, O. Eine neue Art der Gattung *Megarthrus* Steph. nebst einer Bestimmungstabelle der europäischen Arten der Gattung. Koleopt. Rdsch., Vienna 17 1931 pp. 185–191, 1 fig.

Scheerpeltz, O. *see* Beier & Scheerpeltz.

Scheinkin, D. *see* Bodenheimer & Scheinkin; Carmin & Scheinkin.

2479.—Schenkling, S. Sphaeritidae 2 pp.; Aspidiphoridae 2 pp.; Monomidae 7 pp.; Sphindidae 4 pp.; Niponiidae 2 pp. Coleopt. Catalogus, Berlin 117 1913.

2480.—Schenkling, S. & Marshall, Sir G. A. K. Curculionidae. Eremninae 39 pp.; Leptopinae 83 pp.; Tanyrrhynchinae 10 pp.; Cyliindrorrhinae 23 pp.; Thecesterinae (Suppl.), Rhytirrhinae (Suppl.), Rhyparosominae (Suppl.) 4 pp. 114; Dinomorphinae, Somatodinae 2 pp.; Amycterinae 39 pp.; Gonipterinae 11 pp. 116. Coleopt. Catalogus, Berlin 1931.

Schenkling, S. *see* Junk & Schenkling.

2481.—Schevtschenko, F. J. Die Artmerkmale der Larven von *Phlebotomus papatasi*, *Phl. chinensis*, *Phl.*

sergenti und *Phl. caucasicus* (Marzinovsky) s. li (Popoff). Arch. Schiffs- u. Tropenhyg., Leipzig 35 1931 pp. 526–537, 16 figs. [Dipt.]

2482.—Schewket, N. Untersuchungen über Möhrenblattsäuger. Z. angew. Ent., Berlin 18 1931 pp. 175–188, 9 figs. [Hem.]

2483.—Schirber, E. Présentation d'un *Morpho menelaus* L. hermaphrodite (Lép.). Proc.-verb. Soc. linn. Bordeaux 82 (1930) 1931 pp. 28–29.

2484.—Schleicher, H. Coleoptera Histeridae der deutschen limnologischen Sunda-Expedition. Arch. Hydrobiol., Stuttgart Suppl. 8 1931 pp. 593–595.

2485.—Schlieper, C. Ueber die Helligkeitsverteilung im Spectrum bei verschiedenen Insekten. Z. vergl. Physiol., Berlin 8 1928 pp. 281–288.

2486.—Schmalfuss, H. & Barthmeyer, H. Einwirkung von Licht auf Melanin und o-Dioxybenzolstoff im Hautskelett von Käfern. Biochem. Z., Berlin 215 1929 pp. 79–84, 1 fig. [Col.]

2487.—Schmalfuss, H. & Barthmeyer, H. Postmortale Melaninbildung beim Mehlkäfer *Tenebrio molitor* L. Biochem. Z., Berlin 223 1930 pp. 457–469, 3 figs. [Col.]

2488.—Schmalfuss, H. & Barthmeyer, H. Vererbungstheoretische Betrachtungen nebst Entwicklungschemischen Untersuchungen über Vorkommen von Melanogen, insonderheit von o-Dioxybenzol-Stoff, im Organismenreich. Z. indukt. Abstamm.-u. VererbLehre, Leipzig 58 1931 pp. 332–371, 1 fig.

Schmidt, C. T. *see* Bodenheimer & Schmidt.

2489.—Schmidt, E. Zur Kenntnis der Familie Pyrrhocoridae Fieber (Hemiptera-Heteroptera). Stettin. ent. Z. 92 1931 pp. 1–51.

2490.—Schmidt, E. Homoptero-logisches aus dem Stettiner Museum für Naturkunde (Hemiptera—Homoptera). Wien. ent. Ztg. 48 1931 pp. 65–77.

2491.—Schmiedeknecht, O. Die deutschen Gattungen und Arten der Ichneumonidentribus der Anomaloninen. Naturwiss. Z. Forst- u. Landwirt., Stuttgart 14 1916 pp. 97–116, 4 figs. [Hym.]

2492.—Schmiedeknecht, O. *Opuscula Ichneumonologica*. Blankenburg i. Thür. 1931 Suppl. 10, 11 and 12 *Cryptinae* contd.; 12 *Phygadeuonini*. [Hym.]

2493.—Schmitt-Auracher, A. Die 3 Arten von Farbenänderung bei *Caraus[us] morosus*, ihre Resultate und Ursachen. *Zool. Anz.*, Leipzig 53 1921 pp. 108–110. [Orth.]

2494.—Schmitz, H. *Diptera of Patagonia and South Chile based mainly on material in the British Museum (Natural History)*. Part VI, Fasc. 2—*Phoridae* (Supplement). London, Br. Mus. (Nat. Hist.) 1931 pp. 43–48, 2 figs.

2495.—Schmitz, H. Ueber die Gattung *Phorynchus* Brunetti. *Natuurh. Maandbl.*, Maastricht 20 1931 pp. 42–43, 1 fig. [Dipt.]

2496.—Schmitz, H. Neue termitophile Dipteren von Buitenzorg, Java (Vorläufige Mitteilung). *Natuurh. Maandbl.*, Maastricht 20 1931 p. 176, 3 figs.

2497.—Schmuck, M. L. & Metz, C. W. A method for the study of chromosomes in entire insect eggs. *Science*, New York 74 1931 pp. 600–601.

Schmuck, M. L. *see* Metz & Schmuck.

2498.—Schmucker, T. Ueber asymmetrisches Verhalten von Hymenopteren an Blüten. *Biol. Zbl.*, Leipzig 51 1931 pp. 15–18, 1 fig.

2499.—Schnack, F. Nachtfalterfang in Madagaskar. *Ent. Z.*, Frankfurt a. M. 44 1931 pp. 352–354. [Lep.]

2500.—Schneider, C. Beitrag zur Schmetterlingsfauna des Wildseemoors bei Wildbad. Veröffent. Staat. Stelle Naturschutz, Stuttgart 4 1928 pp. 157–163, 1 pl. [Lep.]

2501.—Schneider, C. Beiträge zur Biologie einiger Geometriden. *Ent. Anz.*, Vienna 11 1931 pp. 337–339. [Lep.]

Schneider, G. *see* Mühlen & Schneider.

2502.—Scholz, M. F. R. Verzeichnis der Wanzen Schlesiens. *Ent. Anz.*, Vienna 11 1931 pp. 79–82, 99–102, 117–120, 140–143, 153–156, 181–184, 210–213, 245–248, 279–282, 298–301, 333–336, 373–376, 413–416, 435–436. [Hem.]

2503.—Scholz, R. Kleine Beiträge zur schlesischen Käferfauna. *Coleopt. Centralbl.*, Berlin 5 1931 pp. 137–139. [Col.]

2504.—Schopp, R. The smartweed borer (*Pyrausta ainsliei* Heinrich, Lepidoptera) in Kansas. *J. Kansas Ent. Soc.*, McPherson 4 1931 pp. 25–38.

Schött, H. *see* Sjöstedt et al.

Schoute, E. *see* Buck, Schoute & Swellengrebel.

2505.—Schouteden, H. Catalogues raisonnés de la faune entomologique du Congo Belge. Hémiptères—Reduviides. *Ann. Mus. Congo Belge, Tervueren Zool.* (3) Sect. II, 1 1931 pp. 89–162, 1 pl.

2506.—Schouteden, H. Les mantes ou prièuses. *Rev. Zool. Bot. afr.*, Brussels 21 1931 pp. (51)–(58), 3 figs. [Orth.]

2507.—Schrader, F. The chromosome cycle of *Protortonia primitiva* (Coccidae) and a consideration of the meiotic division apparatus in the male. *Z. wiss. Zool.*, Leipzig 138 1931 pp. 386–408, 2 pls. 4 figs. [Hem.]

2508.—Schreitmüller, W. Zwei seltene Süßwasserwanzen, *Plea minutissima* (Der Zwergrückenschwimmer) und *Aphelocheirus aestivalis* (Die Pfennigwanze). *Aquarium*, Berlin 1931 pp. 91–93, 2 figs. [Hem.]

2509.—Schulthess, A. v. Neue Vespiden (Hym.). *Mitt. schweiz. ent. Ges.*, Berne 15 1931 pp. 49–52, 3 figs.

2510.—Schultz, V. G. M. Lepidopterologische Studien. *Int. ent. Z.*, Guben 25 1931 pp. 177–181, 2 pls.

2511.—Schultze, A. Eine neue Satyride aus der Sierra Nevada de Santa Marta (Kolumbien). *Iris*, Dresden 45 1931 pp. 27–30, 1 pl. [Lep.]

2512.—Schultze, A. Die ersten Stände von zwei Heteroceren aus Aequatorial-Afrika. *Iris*, Dresden 45 1931 pp. 140–143, 2 figs.

2513.—Schultze, A. Zwei neue Heteroceren aus Französisch-Aequatorial-Afrika. *Iris*, Dresden 45 1931 pp. 143–145, 1 pl.

2514.—Schulz, F. N. Zur Biologie des Mehlwurms (*Tenebrio molitor*). I. *Mitt. Der Wasserhaushalt. Biochem. Z.*, Berlin 227 1930 pp. 341–353.

2515.—Schulz, W. Die Orientierung des Rückenschwimmers zum Licht und zur Strömung. Z. vergl. Physiol., Berlin 14 1931 pp. 392-404, 8 figs. [Hem.]

2516.—Schütze, K. T. Die Biologie der Kleinschmetterlinge unter besonderer Berücksichtigung ihrer Nahrungspflanzen und Erscheinungszeiten. Frankfurt-a.-M., Int. ent. Ver. 1931 235 pp. 2 figs. [Lep.]

2517.—Schütze, K. T. & Roman, A. Schlupfwespen. Isis Budissina, Bautzen 12 1931 reprint 12 pp. [Hym.]

2518.—Schuermans Stekhoven, jr., J. H. The present knowledge about the Pupipara and Tabanidae of China. Lingnan Sci. J., Canton 7 (1929) [1931] pp. 497-510. [Dipt.]

2519.—Schuermans Stekhoven, J. H. Eine seltene, ungenügend beschriebene *Basilia*-Art (Diptera Pupipara) aus Venezuela. Z. Parasitenk., Berlin 3 1931 pp. 205-219, 6 figs.

2520.—Schwanwitsch, B. N. Evolution of the wing-pattern in palaearctic Satyridae. II. Genus *Melanargia*. Z. Morph. Oekol. Tiere, Berlin 21 1931 pp. 316-408, 4 pls. 13 figs. [Lep.]

2521.—Schwardt, H. H. The biology of *Tabanus lineola* Fabr. Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 409-416. [Dipt.]

2522.—Schwardt, H. H. Notes on the immature stages of Arkansas Tabanidae. J. Kansas Ent. Soc., McPherson 14 1931 pp. 1-15. [Dipt.]

2523.—Schwarz, H. F. The nest habits of the diplopterous wasp *Polybia occidentalis* variety *scutellaris* (White) as observed at Barro Colorado, Canal Zone. Amer. Mus. Nov., New York no. 471 1931 27 pp. 1 fig. [Hym.]

2524.—Schwarz, H. F. A case of stylopization in a Panurgid bee, *Liopoeum submetallicum* (Spinola). J. New York Ent. Soc. 39 1931 pp. 77-79. [Hym.]

2525.—Schwarzer, B. Beitrag zur Kenntnis der Cerambyciden (Ins. Col.). Senckenbergiana, Frankfurt-a.-M. 13 1931 pp. 59-78, 35 figs., pp. 197-214, 27 figs.

2526.—Schwerdtfeger, F. Beobachtungen und Untersuchungen zur Biologie und Bekämpfung des Kiefernspanners während des Frassjahres 1929 in der Letzlinger Heide. Z. Forst- u. Jagdwesen, Berlin 62 1930 pp. 65-93, 133-166, 28 figs. [Lep.]

2527.—Schwetz, J. Sur la répartition générale des Glossines dans la province orientale (Congo belge) (Etude préliminaire). Rev. Zool. Bot. afr., Brussels 20 1931 pp. 186-200, 1 map [Dipt.]

2528.—Schwingenschuss, L. Lepidopterenausbeute aus Algerien. Verh. zool.-bot. Ges. Wien 81 1931 pp. (7)-(12).

2529.—Scott, A. C. Variables of tissue fixation in the grasshopper, *Melanoplus femur-rubrum*. Trans. Amer. Micr. Soc., Urbana 50 1931 pp. 30-45, 2 pls. [Orth.]

2530.—Scott, F. B. Notes on Indian hawkmoths. J. Bombay Nat. Hist. Soc. 35 1931 pp. 362-381, 3 pls. 9 figs. [Lep.]

2531.—Scott, H. Note on the use of the hind legs as weapons by the males of *Deporaus betulae* L. Ent. Mon. Mag., London 67 1931 pp. 241-243. [Col.]

Scott, H. see Bernhauer; Thomas et al.

2532.—Scott, J. D. A practical method of marking insects in quantitative samples taken at regular intervals. S. Afr. J. Sci., Johannesburg 28 1931 pp. 372-375, 1 fig.

2533.—Scrivener, J. W. Notes on *Gypona octolineata* (Say). J. Washington Acad. Sci. 21 1931 pp. 222-223. [Hem.]

2534.—Seabra, A. F. de. Subsídios para o conhecimento da fauna das Matas Nacionais. Arq. Secç. Biol. Paras. Univ. Coimbra 1 1930 pp. 215-260, 1 pl.; 267-282, 363-368. [Hem.]

2535.—Seabra, A. F. de. Observações sobre algumas espécies da Fam. Cicadoidae e da Fam. Fulgoroidea existentes nas collecções do Museu de Coimbra. Arq. Secç. Biol. Parasit. Univ. Coimbra 1 1930 pp. 307-359. [Hem.]

2536.—Seabra, A. F. de. Apontamentos para o estudo das Cochonilhas de Portugal (Hemípteros-Homópteros). Arq. Secç. Biol. Parasit. Univ. Coimbra 1 1930 pp. 361-362, 2 pls.

2537.—Seabra, A. F. de. Observations sur la détermination des deux espèces du genre *Arocatus*, *A. melanocephalus*, F. et *roeseli*, Schil. Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 41 1930 4 pp., 7 figs. [Hem.]

2538.—Seabra, A. F. de. 2e note sur les *Nysius* du Portugal. Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 42 1930 4 pp. 7 figs. [Hem.]

2539.—Seabra, A. F. de. Sobre a existência de *Macropterna marginalis* Fieb. em Portugal e determinação dos géneros da subf. Oxycareninae Stål representados na fauna lusitânica. Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 44 1930 4 pp. 6 figs. [Hem.]

2540.—Seabra, A. F. de. Nota sobre a existência em Portugal do *Calyptonotus quadratus* (F.) e *Emblethis griseus* (Wlff.), e ensaio de classificação das espécies do género *Calyptonotus* Dgl. Sc. existentes nas colecções do Museu. Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 45 1930 5 pp. 10 figs. [Hem.]

2541.—Seabra, A. F. de. Aditamentos à Memória sobre os Hemípteros Heterópteros da Região Paleártica existentes no Museu de Coimbra. Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 47 1930 18 pp.

2542.—Sebess v. Zilah, G. Anabiotische Dipteren. Arch. Hydrobiol., Stuttgart 23 1931 pp. 310-329, 15 figs.

Séguéla, J. see Pagliano & Séguéla.

2543.—Séguy, E. Spedizione del Barone Raimondo Franchetti in Dancalia. Insectes Diptères. Ann. Mus. Stor. nat. Genova 55 1931 pp. 234-247, 5 figs.

2544.—Séguy, E. Contribution à l'étude de la faune du Mozambique. Voyage de M. P. Lesne 1928-1929. 3e note.—Diptères (1re partie). Bull. Mus. Hist. nat. Paris (2) 2 (1930) 1931 pp. 645-656, 3 figs.; (2) 3 1931 pp. 113-124, 1 fig.

2545.—Séguy, E. Sur les affinités des genres *Stenoxenus* et *Macroptilum* et description d'une espèce nouvelle. (Dipt. Ceratopogonidae). Bull. Soc. ent. Fr., Paris 1931 pp. 208-211, 3 figs.

2546.—Sehl, A. Furchung und Bildung der Keimanlage bei der Mehlmotte *Ephestia kuehniella* Zell. nebst einer allgemeinen Uebersicht über den Verlauf der Embryonalentwicklung. Z. Morph. Oekol. Tiere, Berlin 20 1931 pp. 533-598, 42 figs. [Lep.]

2547.—Seidel, —. Das Determinationsgeschehen bei Insekten. Schr. physioekon. Ges. Königsberg 67 1930 no. 1 p. 105.

2548.—Seidel, F. Die Reaktionsfolge im Determinationsgeschehen des Libellenkeims. Verh. Deutsch. zool. Ges., Leipzig 34 1931 pp. 193-200, 4 figs. [Odon.]

2549.—Seidel, J. Blattminierer der Oberglogauer Gegend. Beuthener Abh. ober Schles. Heimatforsch. no. 4-5 1931 50 pp. 1 pl.

2550.—Seitz, A. Die Gross-Schmetterlinge der Erde. Stuttgart, 1931. Fauna Americana 6 pp. 841-896, 22 pls.; Fauna Indo-Australica 10 pp. 657-720, 4 pls.; Fauna Africana 14 pp. 569-599, 9 pls. (completion); 16 pp. 41-48, 2 pls.; Fauna Palaearctica Suppl. 1 pp. 289-376, 1 pl., Suppl. 2 pp. 49-80, 5 pls., Suppl. 3 pp. 1-32, 1 pl. See Bollow & Gaede, Corti, Draudt, Gaede, Gaede & Bollow, Hering, Prout, Reiss.

2551.—Seitz, A. Goyaz-Reise. Ent. Rdsch., Stuttgart 48 1931 pp. 1-6, 36-39, 48-51, 74-76, 81-83, 105-109, 137-140, 143-146, 184-189, 197-202, 205-213, 224-228, 236-242, 245-248, 257-263, 15 figs. [Lep.]

Sekiguti, K. see Stern & Sekiguti.

2552.—Seligo, A. Zur Kenntnis der Bodentierwelt des Mariensees. Ber. westpreuss. bot.-zool. Ver. 53 1931 no. 9 33 pp. 2 pls.

2553.—Semenov-Tian-Shanskii, A. & Medvedev, S. Conspectus specierum rossicarum tribus Ochodaeina (Coleoptera, Scarabaeidae). [In Russian with Latin descriptions.] Annu. Mus. zool. Acad. Leningrad 31 (1930) 1931 pp. 393-398.

2554.—Semichon, L. Modifications précoces des réserves, avant la métamorphose chez la hyménoptère : *Dasy-poda plumipes* Panzer. C.R. Soc. Biol., Paris 108 1931 pp. 1140-1141.

2555.—Sen, A. C. Notes on some hitherto unknown Indian Hymenoptera. Rec. Ind. Mus., Calcutta 33 1931 pp. 21–24, 4 figs.

2556.—Sen, P. Preliminary observations on the early stages of *Scatella stagnalis* Fal. (Ephydriidae, Diptera). J. Mar. Biol. Ass., Plymouth (N.S.) 17 1931 pp. 847–851, 4 figs.

Sen, S. K. see Fletcher & Sen.

2557.—Senevet, G. Contribution à l'étude des nymphes de Culicides. Description de celles de certains Anophélines et plus spécialement des espèces européennes et méditerranéennes. C.R. 2e Congr. internat. Paludisme Alger 1930 1 1931 pp. 69–154, 48 figs. [Dipt.]

2558.—Servadei, A. Contributo alla conoscenza delle *Hyponomeuta padellus* L., *cognatellus* Hbn. e *viginti-punctatus* Retz. Boll. Lab. Ent. Bologna 3 1930 pp. 254–301, 5 pls. 19 figs. [Lep.]

2559.—Setty, L. R. The biology of *Bittacus stigmaterus* Say (Mecoptera, Bittacusidae). Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 467–484, 1 pl.

2560.—Seyfried, A. P. An anatomical-histological study of the myrmecophilous Histerid *Chrysaerius iheringi* Reichensp. Contr. Myrmecophily 2 (Thesis Fribourg Univ., Switzerland) [1928] 64 pp. 19 figs. [Col.]

2561.—Shannon, R. C. The environment and behaviour of some Brazilian mosquitoes. Proc. Ent. Soc. Washington 33 1931 pp. 1–27. [Dipt.]

2562.—Shannon, R. C. On the classification of Brazilian Culicidae with special reference to those capable of harboring the yellow fever virus. Proc. Ent. Soc. Washington 33 1931 pp. 125–164, 7 pls. [Dipt.]

2563.—Shannon, R. C. List of species of Argentine Culicidae. 6. Reun. Soc. argent. Pat. reg. Norte, Buenos Aires 1931 pp. 494–500. [Dipt.]

2564.—[Shchegoleva - Barovskaya] Sczegoleva-Barovskaja, T. De Mordellidis (Coleoptera) novis in collectione Musei Zoologici Academiae Scientiarum. C.R. Acad. Sci. U.R.S.S., Leningrad (A) 1930 pp. 750–752, 1 fig.

2565.—[Shchegoleva - Barovskaya] Sczegoleva-Barovskaja, T. Aperçu des Coléoptères de la fam. Mordellidae de la

région Nord-ouest de l'U.R.S.S. (Ingrie). [In Russian.] Annu. Mus. zool. Acad. Leningrad 32 1931 pp. 51–65, 2 figs.

2566.—Sheldon, W. G. Notes on the nomenclature and variation of British species of the *Peronea* group of the Tortricidae [contd.]. Entomologist, London 64 1931 pp. 2–6, 30–34, 60–64, 77–82, 99–103, 124–127, 1 pl. [Lep.]

2567.—Sheldon, W. G. *Dysstroma truncata*, form *concinata*, Stephs., or *Dysstroma concinnata*, Stephs., valid species: which is it? Entomologist, London 64 1931 pp. 193–196, 224–226, 245–247. [Lep.]

2568.—Sheljuzhko, L. Nochmals über die *Melanargia halimede*-Gruppe. Ent. Anz., Vienna 11 1931 pp. 7–10, 25–28, 45–48, 65–68, 95–98, 113–116, 137–139, 3 figs. [Lep.]

2569.—Sheljuzhko, L. Einige Randbemerkungen zum "Supplement" zu den "Gross-Schmetterlingen der Erde." Papilionidae und Pieridae. Int. ent. Z., Guben 25 1931 pp. 69–74. [Lep.]

2570.—Shepard, H. H. Hesperidae: Subfamilia Pyrginae I. Lepidopt. Catalogus, Berlin 47 1931 pp. 1–144.

Sherborn, C. D. see Griffin & Sherborn.

2571.—Shibuya, J. The Endotrichinae of Japan. Insecta matsum., Sapporo 5 1931 pp. 161–170. [Lep.]

2572.—Shimizu, S. On the origin of the crystals in the exuvial fluid of the silkworm larva. Proc. Imp. Acad. Tokyo 7 1931 pp. 361–362. [Lep.]

2573.—Shinji, O. New genera and species of the Japanese Aphididae. [In Japanese.] Dobuts. Zasshi 34 1922 pp. 729–732, 787–800. [Hem.]

2573a.—Shinji, O. New species of Aphids from Morioka. [In Japanese.] Dobuts. Zasshi 36 1924 pp. 343–372. [Hem.]

2574.—Shinji, O. Some new Aphidids from north-eastern Japan. *Lansania* 2 1930 pp. 151–160. [Not seen.] [Hem.]

2575.—Shinji, O. The evolutionary significance of the chromosomes of Aphidae. J. Morph., Philadelphia 51 1931 pp. 373–434, 5 pls. 1 fig. [Hem.]

2576.—Shinoda, O. On the starch digestion in the silkworm. Annot. zool. jap., Tokyo 13 1931 pp. 117–125, 2 figs. [Lep.]

2577.—Shiraki, T. Orthoptera of the Japanese Empire. Part II (Blattidae). *Insecta matsum.*, Sapporo 5 1931 pp. 171–209, 20 figs.

2578.—Shortt, H. E. Note on the feeding habits of *Phlebotomus minutus*. *Ind. J. Med. Res.*, Calcutta 18 1931 pp. 1047–1049. [Dipt.]

2579.—Shull, A. F. Order of embryonic segregation in intermediate Aphids not reversed by low temperature. *Amer. Nat.*, New York 65 1931 pp. 469–473. [Hem.]

2580.—Shull, A. F. Clonal differences and clonal changes in an Aphid species. *Anat. Rec.*, Philadelphia 51 1931 suppl. pp. 112–113. [Hem.]

2581.—Shu-Yen, L. External morphology of the corn ear worm. *Lingnan Sci. J.*, Canton 7 (1929) [1931] pp. 697–708, 3 pls. [Lep.]

2582.—Sicard, A. Description de trois espèces nouvelles de Coccinellidae. *Ann. Mag. Nat. Hist.*, London (10) 7 1931 pp. 508–510. [Col.]

2583.—Sicard, A. Descriptions d'espèces nouvelles appartenant à la famille des Coccinellides (Col.). *Ann. Mag. Nat. Hist.*, London (10) 8 1931 pp. 228–234.

2584.—Siefke, H. Neue Ruderwanzen-Funde in der Mark. *Mitt. deuts. ent. Ges.*, Berlin 2 1931 pp. 66–67. [Hem.]

2585.—Siepmann, C. G. On the validity of *Glischrochilus quadrisignatus* Say (Coleoptera, Nitidulidae). *Bull. Brooklyn Ent. Soc.* 26 1931 pp. 24–35, 1 pl.

2586.—Sietti, —. Deuxième voyage entomologique aux îles Balears. *Misc. ent.*, Castanet-Tolosan 33 1931 pp. 49–56. [Col.]

2587.—Sikes, E. K. Notes on breeding fleas, with reference to humidity and feeding. *Parasitology*, Cambridge 23 1931 pp. 243–249, 1 chart 1 table. [Siphonapt.]

2588.—Silantjev, I. Contribution to a monograph of *Tipula oleracea* L. [In Russian.] *Plant Prot.*, Leningrad 7 1931 pp. 29–45, 13 figs. [Dipt.]

Silva Tavares *see* Tavares.

2589.—Silvestri, F. A contribution to a knowledge of the South African Japygidae (Insecta, Thysanura). *Ann. S. Afr. Mus.*, Pretoria 30 1931 pp. 61–88, 24 figs.

2590.—Silvestri, F. Campodeidae (Insecta, Thysanura) di Cuba. *Boll. Lab. Zool. Portici* 24 1931 pp. 299–319, 12 figs.

2591.—Silvestri, F. Descrizione di nuovi Campodeidae (Insecta, Thysanura) della regione neotropica. *Boll. Lab. Zool. Portici* 24 1931 pp. 319–340, 16 figs.

2592.—Silvestri, F. Nuovi Campodeidae (Insecta, Thysanura) della regione australiana. *Boll. Lab. Zool. Portici* 25 1931 pp. 275–285, 5 figs.

2593.—Silvestri, F. Campodeidae (Insecta Thysanura) dell'estremo oriente. *Boll. Lab. Zool. Portici* 25 1931 pp. 286–320, 30 figs.

2594.—Silvestri, F. Contributo alla conoscenza dei Campodeidae (Thysanura) delle grotte della Bulgaria. *Mitt. naturw. Inst. Sofia* 4 1931 pp. 97–107, 8 figs.

2595.—Silvestri, F. Notes on *Grylloblatta campodeiformis* and a description of a new variety (Grylloblattidae). *Trans. Amer. Ent. Soc.*, Philadelphia 57 1931 pp. 291–295, 1 pl. 3 figs.

2596.—Silvey, J. K. G. Observations on the life-history of *Rheumatobates rileyi* (Berg.) (Hemiptera-Gerridae). *Pap. Michigan Acad. Sci.*, Ann Arbor 13 1931 pp. 433–446, 1 pl.

2597.—Simic, T. Etude complémentaire des phlébotomes de Skoplje (Yougoslavie). *Ann. Paras. hum. comp.*, Paris 9 1931 pp. 104–110, 2 figs. [Dipt.]

2598.—Simonds, W. E. Preliminary list of Curculionidae of southern California with ecological notes. *J. Ent. Zool.*, Claremont 23 1931 pp. 61–63. [Col.]

2599.—Singh, K. A contribution towards our knowledge of the Aleyrodidae (whiteflies) of India. *Mem. Dept. Agric. India*, Calcutta 12 1931 pp. 1–98, 37 pls. [Hem.]

2600.—Sinton, J. A. Notes on some Indian species of the genus *Phlebotomus*. Parts XXVI–XXIX. *Ind. J. Med. Res.*, Calcutta 1931 18 pp. 817–829, 1203–1210; 19 pp. 107–111, 5 pls.

Sinton, J. A. *see* Christophers, Sinton & Covell.

2601.—Sirguy, P. Variétés de *Carabus* de la faune franco-rhénane. Misc. ent., Castanet-Tolosan **33** 1931 pp. 65-71. [Col.]

2602.—Sjöberg, O. Zur Kenntnis der Arten der Gattung *Proteinus* Latr. (Col., Staphylinidae). Ent. Tidskr., Stockholm **51** 1930 pp. 175-190, 5 pls.

2603.—Sjöstedt, Y. Acrididen aus dem Museum in Canberra (The Federal Capital Territory, Australia). Ark. Zool., Stockholm **22A** 1931 no. 7 11 pp. 4 figs. [Orth.]

2604.—Sjöstedt, Y. Acridioidea aus Kongo und anderen Teilen von Afrika. Ark. Zool., Stockholm **22A** 1931 no. 15 64 pp. 6 pls. 40 figs. [Orth.]

2605.—Sjöstedt, Y. Studien über *Valanga*-Formen (Orth. Acrid.) aus dem Indo-Malayischen Archipel und Oceanien. Ark. Zool., Stockholm **23A** no. 4 1931 pp. 1-26, 9 figs.

2606.—Sjöstedt, Y. et al. Insektafaunan inom Abisko Nationalpark. K. sven. Vet. Skrift. Natursk., Stockholm 1931 **16** pp. 1-64, **17** pp. 1-68, **18** pp. 1-72.

2607.—Skala, H. Zur Verbreitung der Nepticulidae. Ent. Anz., Vienna **11** 1931 pp. 206-209, 275-278, 287-288. [Lep.]

2608.—Skala, H. Zur Falterfauna Mährens, Schlesiens und der Slowakei. Ent. Anz., Vienna **11** 1931 pp. 469-471. [Lep.]

2609.—Skala, H. Minen aus Oberösterreich und Salzburg. (Lep., Dipt.) Ent. Z., Frankfurt-a.-M. **44** 1931 pp. 285-287.

2610.—Skala, H. Die wichtigsten Neuentdeckungen an Grossschmetterlingen aus dem Gebiete der ehemal. oesterr.-ungar. Monarchie. Ent. Z., Frankfurt-a.-M. **45** 1931 pp. 97-100, 114-119. [Lep.]

2611.—Skala, H. Falter aus dem oberen Mühlviertel [contd.]. Z. öst. EntVer., Vienna **16** 1931 pp. 7-8, 26, 40, 82-83.

Skinner, B. F. *see* Barnes & Skinner.

Skinner, E. R. *see* Chrystal & Skinner.

2612.—Skobeltzyne, V. Rôle du système nerveux dans le tissage des

cocons chez les mites d'abeilles. Ann. Inst. Pasteur, Paris **47** 1931 pp. 86-93, 8 figs. [Lep.]

2613.—Skobeltzyne, V. Influence du système nerveux sur l'immunité chez les chenilles de *Galleria mellonella*. Ann. Inst. Pasteur, Paris **47** 1931 pp. 660-666, 3 figs. [Lep.]

2614.—Skorikov, A. S. Neues in der Frage der Bienenrassen. Arch. Bienenkunde, Neumünster i. Holstein **11** 1930 pp. 53-57, 1 map. [Hym.]

Slater, W. K. *see* Davis & Slater.

2615.—Slifer, E. H. Qualitative studies on the fatty acids from the eggs of grasshoppers. Anat. Rec., Philadelphia **51** 1931 suppl. p. 26. [Orth.]

2616.—Slifer, E. H. Blastokinesis in the living grasshopper egg. Anat. Rec., Philadelphia **51** 1931 suppl. p. 61. [Orth.]

2617.—Slifer, E. H. Insect development. ii. Mitotic activity in the grasshopper embryo. J. Morph., Philadelphia **51** 1931 pp. 613-618, 2 figs. [Orth.]

2618.—Slifer, E. H. Insect development. i. Fatty acids in the grasshopper egg. Physiol. Zool., Chicago **3** 1930 pp. 503-518, 4 figs. [Orth.]

Slifer, E. H. *see* Herber & Slifer.

2619.—Smit, B. A study of the sheep blow-flies of South Africa. Rep. Vet. Res. S. Afr., Pretoria **17** 1931 pp. 299-421, 9 pls. 31 tables, 6 figs. 4 diagr. [Dipt.]

2620.—Smith, C. E. & Allen, N. Sex differentiation of the spotted cucumber beetle. J. Econ. Ent., Geneva, N.Y. **24** 1931 pp. 1077-1079. [Col.]

2621.—Smith, C. W. Colonisation in Canada of *Collyria calcitrator* (Hym., Ichn.), a parasite of the wheat-stem sawfly. Bull. Ent. Res., London **22** 1931 pp. 547-550.

2622.—Smith, F. F. A new type of insect cage. J. Econ. Ent., Geneva, N.Y., **24** 1931 pp. 914-916, 1 pl.

2623.—Smith, F. F. & Poos, F. W. The feeding habits of some leafhoppers of the genus *Empoasca*. J. Agric. Res., Washington, D.C. **43** 1931 pp. 267-285, 18 figs. [Hem.]

Smith, F. F. *see* Poos & Smith.

Smith, H. D. *see* Hill & Smith.

2624.—Smith, K. M. A textbook of agricultural Entomology. Cambridge Univ. Press 1931 xiii + 285 pp. 80 figs.

2625.—Smith, M. R. A revision of the genus *Strumigenys* of America, north of Mexico, based on a study of the workers (Hym.: Formicidae). Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 686–706, 4 pls.

2626.—Smith, M. R. An additional annotated list of the ants of Mississippi (Hym.: Formicoidea). Ent. News, Philadelphia 42 1931 pp. 16–24.

2627.—Smith, M. R. Is *Eciton mexicanum* F. Smith really *Eciton pilosus* F. Smith? J. New York Ent. Soc. 39 1931 pp. 295–298. [Hym.]

2628.—Smith, R. C. The Neuroptera of Haiti, West Indies. Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 798–821, 2 pls.

2629.—Smith, R. C. A study of temperature and humidity conditions in common types of insect rearing cages. J. Agric. Res., Washington, D.C. 43 1931 pp. 547–557, 1 fig.

2630.—Smith, R. C. & Haug, G. W. An ergatandrous form in *Ponera opaciceps* Mayr. Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 507–509, 1 pl. [Hym.]

2631.—Smith, W. W. Ants inhabiting Mount Egmont. N.Z. J. Sci. Technol., Wellington 13 1931 pp. 45–47, 1 fig. [Hym.]

2632.—Snell, P. A. The neuromuscular mechanism controlling flashing in the Lampyrid fireflies. Science, New York 73 1931 pp. 372–373, 1 fig. [Col.]

2633.—Snodgrass, R. E. Morphology of the insect abdomen. Part I. General structure of the abdomen and its appendages. Smithsonian Misc. Coll., Washington 85 1931 no. 6 128 pp., 46 figs.

2634.—Snyder, T. E. Insects from the Miocene (Latah) of Washington. Isoptera. Ann. Ent. Soc. Amer., Columbus 24 1931 p. 317, 1 fig. [Fossil.]

2635.—Snyder, T. E. Termites, destroyers of wood, and man's fight against them. Lingnan Sci. J., Canton 7 (1929) [1931] pp. 531–550, 11 pls. 4 figs. [Isopt.]

2636.—Snyder, T. E. Directions for collecting, preserving and breeding

termites (Isoptera); the collection and preserving of insect inquilines and symbiotic, intestinal protozoan parasites. Lingnan Sci. J., Canton 7 (1929) [1931] pp. 551–558. [Isopt.]

Soekaria, M. S. see Avé Lallemant, Soerono & Soekaria.

Soerono, M. see Avé Lallemant, Soerono & Soekaria.

2637.—Soesilo, R. & Van Slooten, J. Miscellaneous notes on Anopheline mosquitos from the Dutch East Indies. Meded. Dienst Volksgezondh. Ned.-Ind., Batavia 20 1931 pp. 124–128, 7 figs. Also in Dutch in Geenesk. Tijdschr. Ned.-Ind., Batavia 71 1931 pp. 1254–1259, 7 figs. [Dipt.]

2638.—Soffner, J. Zur Schmetterlingsfauna des mittleren Böhmerwaldes. Mitt. münchn. ent. Ges., Munich 20 (1930) 1931 pp. 115–132, 1 pl. [Lep.]

Sofiev, M. S. see Khodukin & Sofiev.

2639.—Soika, A. G. Primo contributo alla conoscenza degli Imenotteri del Lido di Venezia. Boll. Soc. ent. ital., Genoa 63 1931 pp. 99–103.

2640.—Solari, F. Curculionidi nuovi, poco o male conosciuti della fauna paleartica. Boll. Soc. ent. ital., Genoa 63 1931 pp. 82–90. [Col.]

2641.—Solf, V. Reizphysiologische Untersuchungen an Orthopterenmuskulatur. Zool. Jahrb., Jena Allg. Zool. 50 1931 pp. 175–264, 50 figs.

2642.—Sonan, J. Some wasps and bees of Hôkotô (Pescadores). [In Japanese.] Trans. Nat. Hist. Soc. Formosa, Taihoku 21 1931 pp. 6–8. [Hym.]

Soper, H. E. see Thompson, W. R.

Soundy, W. W. see Hancock & Soundy.

2643.—Sowerby, A. de C. The Naturalist in Manchuria. The cold-blooded vertebrates, invertebrates and flora of the Manchurian Region, Tientsin 1930 4 321 pp. 5 250 pp. 43 pls. [Insects 5 pp. 115–195.]

2644.—Spaeth, F. Neue Beiträge zur Kenntnis der afrikanischen Cassidinen (Col. Chrys.). Rev. Zool. Bot. afr., Brussels 21 1931 pp. 100–112.

2645.—Spaeth, F. Ueber die Gattung *Tarwoma* Hope (Col.). Stettin. ent. Ztg. 92 1931 pp. 305–314.

2646.—Spaeth, F. Bestimmungstabelle der *Hoplonota*-Arten (Col. Chrysom.) von Madagascar und Nachbarinseln. Wien. ent. Ztg. **48** 1931 pp. 149–174, 1 fig.

2647.—Speicher, B. R. The effects of desiccation upon the growth and development of the Mediterranean flour-moth. Proc. Pennsylvania Acad. Sci., Harrisburg **5** 1931 pp. 79–82, 1 fig. [Lep.]

2648.—Spencer, G. J. Notes on *Phalacrocer* species, an aquatic crane-fly (Diptera, Tipulidae). Proc. Ent. Soc. Br. Columbia no. **27** 1930 pp. 15–16, 1 fig.

Spender, M. see Stephenson, Tandy & Spender.

2649.—[Spesivtzev, P.N.] Спесивцев, П. Н. Key to the bark-beetles of European U.S.S.R. with the exception of Crimea and the Caucasus. [In Russian.] Moscow, Govt. Agric. Pub. 3rd edn. 1931 103 pp. 162 figs. [Col.]

2650.—Spett, G. Entwicklung der Artunterschiede in der postembryonalen Ontogenese zweier Arten der Gattung *Chorthippus* (Orthoptera). Arch. Entw.-Mech. Org., Berlin **124** 1931 pp. 241–272, 8 figs.

2651.—Spett, G. & Schaposchnikow, A. Die Variabilität des männlichen und weiblichen Geschlechts bei Käfern. Z. Morph. Oekol. Tiere, Berlin **22** 1931 pp. 121–162. [Col.]

2652.—Spitz, R. Variationsercheinungen an *Euptychia armilla* Btlr., und einige neue Lepidopteren aus Brasilien. Rev. Ent., São Paulo **1** 1931 pp. 42–52, 2 figs.

2653.—Springer, R. E. Some factors affecting the hatching of the eggs of the European corn borer. Proc. Pennsylvania Acad. Sci., Harrisburg **4** 1930 pp. 99–102, 1 graph. [Lep.]

2654.—Ssavytshenko, E. N. Beitrag zur Kenntnis der Scarabaeidenfauna Wolyniens. [With Russian summary.] Trav. Mus. zool. Kiev no. **10** 1931 pp. 43–62. [Col.]

2655.—Stackelberg, A. A. Ueber-sicht der paläarktischen Arten der Unterfamilie Cinxinae (Diptera, Syrphidae), im Zusammenhang mit der Auffindung einer neuen Art der Gattung *Cinxia* in Jakutien. [In German with

Russian summary.] Mat. Comm. Etude Républ. Auto. Soviet, Iakoute **20** 1927 pp. 1–27.

2656.—Stackelberg, A. Résultats scientifiques de l'expédition hydro-faunistique du Musée zoologique dans la Sibérie orientale en 1927. I. Diptera, Dolichopodidae. Part I. Genus *Dolichopus* Latr. [In Russian with Latin descriptions.] Annu. Mus. zool. Acad. Leningrad **31** 1930 pp. 135–163, 2 pls. 10 figs.

2657.—Stackelberg, A. Dolichopodidae. In LINDNER Flieg. Palaeark. Reg. **29** 1930 pp. 1–62, 2 pls. 31 figs.

2658.—Stackelberg, A. v. Dolichopodidae der Deutschen Limnologischen Sunda-Expedition. Arch. Hydrobiol., Stuttgart Suppl. **8** 1931 pp. 771–782, 6 figs. [Dipt.]

2659.—Stadler, H. et al. Vorarbeiten zu einer Limnologie Unterfrankens. Verh. int. Ver. Limnol. Innsbruck, Stuttgart **2** (1923) 1924 pp. 136–176, 1 map. [Insects pp. 161–165.]

2660.—Stäger, R. Ueber die Einwirkung von Duftstoffen und Pflanzendüften auf Ameisen. Z. wiss. Insekt-Biol., Berlin **26** 1931 pp. 55–65. [Hym.]

2661.—Stäger, R. Ueber das Mitteilungsvermögen der Waldameise beim Auffinden und Transport eines Beutestückes. Z. wiss. Insekt-Biol., Berlin **26** 1931 pp. 125–137. [Hym.]

2662.—Staig, R. A. The Fabrician types of insects in the Hunterian collection at Glasgow University. Coleoptera. Part I. Cambridge Univ. Press 1931 xv + 110 pp. 28 pls.

Staley, J. see Marshall & Staley.

Stancati, M. F. see Whiting & Stancati.

2663.—Stanković, S. Sur une nouvelle larve et nymphe de *Tremma* (Trichoptères). [In Serbian with French summary.] Bull. Soc. Sci. Skoplie **4** 1928 pp. 121–128, 4 figs.

2664.—Stanley, W. F. The effect of temperature on vestigial wing in *Drosophila melanogaster*, with temperature-effective periods. Physiol. Zool., Chicago **4** 1931 pp. 394–408, 5 figs. [Dipt.]

2665.—Stärcke, A. Verzeichnis der bis jetzt von der Insel Palau Berhala bekannt gewordenen Ameisen. *Treubia*, Buitenzorg 12 1930 pp. 371–381, 3 pls. 1 fig. [Hym.]

Stark, M. B. *see* Lucas & Stark.

2666.—Stark, N. K. Insect faunae of different forest types. [In Russian.] *Plant Prot.*, Leningrad 7 1931 pp. 339–343. [Col.]

2667.—Stark, V. Caucasian representatives of the genus *Hylesinus* (Coleoptera, Ipidae). [In Russian and German.] *Bull. Inst. Contr. Pests Diseases*, Leningrad 1 1931 pp. 81–84.

2668.—Stark, V. N. Bark-beetles of the forests of Chibiny, Lapland. [In Russian.] *Plant Prot.*, Leningrad 7 1931 pp. 19–28, 1 fig. [Col.]

2669.—Stearns, L. A. The broods of the plum curculio, *Conotrachelus nenuphar* Herbst, in Delaware. *J. Econ. Ent.*, Geneva, N.Y. 24 1931 pp. 62–66. [Col.]

2670.—Steel, A. On the structure of the immature stages of the frit fly (*Oscinella frit* Linn.). *Ann. Appl. Biol.*, Cambridge 18 1931 pp. 352–369 11 figs. [Dipt.]

2671.—Steger, A. L. Some preliminary notes on the genus *Ephemerella*. *Psyche*, Boston 38 1931 pp. 27–35, 1 fig. [Ephemeropt.]

2672.—Stehr, W. C. The Coccinellidae (ladybird beetles) of Minnesota (Coleoptera). *Tech. Bull. Minnesota Agric. Expt. Sta.*, Univ. Farm, St. Paul 75 1930 54 pp., 4 figs.

2673.—Stehr, W. C. The activating influence of light upon certain aquatic Arthropods. *J. Exp. Zool.*, Philadelphia 59 1931 pp. 297–335, 10 figs.

2674.—Stein, R. Neue oder wenig bekannte Afterraupen nebst Bemerkungen über Blattwespen überhaupt. II Teil. *Wien. ent. Ztg.* 48 1931 pp. 81–96. [Hym.]

Steinbach, H. B. *see* Taylor & Steinbach.

2675.—Steinböck, O. Zur Lebensweise einiger Tiere des Ewigschneegebietes. *Z. Morph. Oekol. Tiere*, Berlin 20 1931 pp. 707–718, 4 figs.

2676.—Steiner, A. Temperaturuntersuchungen in Ameisennestern mit Erdkuppeln, im Nest von *Formica exsecta* Nyl. und in Nestern unter Steinen. *Z. vergl. Physiol.*, Berlin 9 1929 pp. 1–66, 20 figs. [Hym.]

2677.—Steiner, A. Die Temperaturregulierung im Nest der Feldwespe (*Polistes gallica* var. *biglumis* L.). *Z. vergl. Physiol.*, Berlin 11 1930 pp. 461–502, 9 figs. [Hym.]

2678.—Steiner, P. Zur Kenntnis der Parasiten des Kiefernspanners. *Z. angew. Ent.*, Berlin 17 1931 pp. 601–630, 7 figs. [Lep.]

Steinweden, J. B. *see* Moulton & Steinweden.

2679.—Stelfox, A. W. A new and interesting Irish beetle from wasps' nest—*Metocercus paradoxus* L. *Irish Nat. J.*, Belfast 2 1929 pp. 197–199. [Col.]

Stelfox, A. W. *see* Palmer & Stelfox.

2680.—Stempffer, H. Notes sur quelques Lycaenidae français (contd.). *Amat. Papillons*, Paris 5 1931 pp. 241–243, 274–276.

2681.—Stempffer, H. Contribution à l'étude de quelques espèces de genre *Lycaenides* Hübner (Lepid. Lycaenidae). *Ann. Soc. ent. Fr.*, Paris 100 1931 pp. 121–132, 3 pls.

2682.—Steopoe, J. La spermatogénèse chez *Nepa cinerea*. *Ann. sci. Univ. Jassy* 16 1931 pp. 611–654, 5 pls. [Hem.]

2683.—Stepanov, E. Uebersicht der Arten der *Selatosomus*-Untergattung *Calambus* Motsch. (Col. Elateridae). *Acta Soc. ent. Čech.*, Prague 27 1930 pp. 134–136.

2684.—Stephenson, T. A. & A., Tandy, G. & Spender, M. The structure and ecology of Low Isles and other reefs. Great Barrier Reef Exped. 1928–29 *Sci. Repts.*, London 3 1931 pp. 17–112, 27 pls. 15 figs. [Insects pp. 36, 40–42, 57, 61.]

2685.—Stern, C. & Ogura, S. Neue Untersuchungen über Aberrationen des Y-Chromosoms von *Drosophila melanogaster*. *Z. indukt. Abstamm.-u. Vererb.-Lehre*, Leipzig 58 1931 pp. 81–121, 6 figs. [Dipt.]

2686.—Stern, C. & Sekiguti, K. Analyse eines Mosaikindividuums bei *Drosophila melanogaster*. Biol. Zbk., Leipzig 51 1931 pp. 194–199, 1 fig. [Dipt.]

2687.—Sterneck, J. Irrige Angaben über *Erebia*-Species. Int. ent. Z., Guben 25 1931 pp. 1–4. [Lep.]

2688.—Sterneck, J. Die Schmetterlinge der Stötznerschen Ausbeute. Geometridae, Spanner IV. Iris, Dresden 45 1931 pp. 78–91. [Lep.]

2689.—Sterzinger, O. Verhalten und Umstimmungen der Stubenfliege bei Gewitter. Z. Psychol., Leipzig 109 1929 pp. 229–230. [Dipt.]

2690.—Sterzl, A. *Zygaena ephialtes* L. und ihre bemerkenswertesten Formen. Z. Ver. Naturbeobach., Vienna 6 1931 pp. 5–7, 9–11, 17–19, 21–23. [Lep.]

Stevens, K. P. see Harvey & Stevens.

2691.—Stichel, H. Riodinidae IV: Riodininae III (pars ultima). Lepidopt. Catalogus 44 1931 pp. 721–795.

2692.—Stichter, G. B. Is the flight of the Japanese beetle necessarily restricted to a few months of the year? Proc. Pennsylvania Acad. Sci., Harrisburg 5 1931 pp. 40–42. [Col.]

Stier, T. J. B. see Crozier & Stier.

2693.—Stiles, C. W. & Nolan, M. O. Key-catalogue of parasites reported for Chiroptera (bats) with their possible public health importance. Bull. Nat. Inst. Health, Washington, D.C. no. 155 1931 pp. 603–742, 767.

2694.—Stiller, V. Die Käferfauna der Umgebung von Szeged in Ungarn. II. Mitt. deuts. ent. Ges., Berlin 2 1931 pp. 56–64, 1 fig. [Col.]

2695.—Stitz, H. Planipennia. Biologie der Tiere Deutschlands, Berlin Teil 35 1931 pp. 67–304, 334 figs.

2696.—Stitz, J. & Beyer, M. Die biologische Wirkung der ultravioletten Strahlen auf die Bienen. Arch. Bienenkunde, Neumünster i. Holstein 8 1927 pp. 286–288. [Hym.]

2697.—Stitz, R. *Especies novas de Macrolepidopteros brasileiros e suas biologias*. Rev. Mus. paul., São Paulo 17 1931 pp. 459–482, 4 pls.

2698.—Stoner, D. Ornithological and entomological experiences in New Zealand. Univ. Iowa Studies, Iowa City 10 no. 5 1924 pp. 254–282, 2 pls. [Insects pp. 274–282.]

2699.—Strand, E. Lepidopterorum Catalogus, Berlin. See Bryk, Dalla Torre & Strand, Gaede, Shepard, Stichel, Strand.

2700.—Strand, E. Heterogynidae. Lepidopt. Catalogus, Berlin 28 1923 pp. 11–14.

2701.—Strand, E. Kritische Bemerkungen zu einer neuen Arbeit über afrikanische *Teracolus*-Arten (Lepidoptera). Acta Univ. Latviensis, Riga Mat. Dabasz. Fak. Ser. I 9 1931 pp. 253–264.

2702.—Strand, E. Ueber einige Formen von *Coenonympha pamphilus* L. Acta Univ. Latviensis, Riga Mat. Dabasz. Fak. Ser. I 10 1931 pp. 265–268, 2 figs. [Lep.]

2703.—Strand, E. Die systematischen Zoologen sterben angeblich aus warum? Ent. NachrBl., Troppau 5 1931 pp. 41–48, 110.

2704.—Strand, E. Nochmals Zurückweisung nomenklatorischer Entgleisungen des Herrn R. Richter. Folia zool. hydrobiol., Riga 2 1931 pp. 248–261.

Strand, E. see Dalla Torre & Strand.

2705.—Strelnikov, I. D. Influence des radiations solaires sur la température du corps des insectes. C.R. Acad. Sci. Fr., Paris 192 1931 pp. 1317–1319.

2706.—Streltsov, I. On the biology of *Baris scolopacea* Germ. [In Russian.] Plant Prot., Leningrad 7 1931 pp. 103–105, 1 fig. [Col.]

2707.—Strickland, C. & Chowdhury, K. L. The Anopheline larvae of the countries from India and the Orient to the Antipodes. A supplement (1931) to the Anopheline larvae of India, Ceylon and Malaya. Calcutta, Thacker, Spink & Co. Ltd. 1931 36 pp. 9 pls. [Dipt.]

Ströman, R. see Ekblom & Ströman.

2708.—Stscherbakov, T. S. A list of the Dermaptera of the Crimea. [In Russian.] Bull. Soc. Nat. Crimée, Simferopol 2 1913 pp. 122–127.

2709.—Sturtevant, A. H. Ants collected on Cape Cod, Massachusetts. *Psyche*, Boston **38** 1931 pp. 73-79. [Hym.]

2710.—Sturtevant, A. H. et al. Contributions to the genetics of *Drosophila simulans* and *Drosophila melanogaster*. Publ. Carnegie Inst. Washington no. 399 1929 296 pp. 5 figs. [Dipt.]

Su, T. *see* Bataillon & Su.

2711.—Šulc, K. On the osmeterium of the Staphylinidae, active during the flight. [In Czech with English summary.] *Biol. Spisy Acad. vet.*, Brno **1** 1922 pp. 83-102, 6 figs. [Col.]

2712.—Šulc, K. Ueber die intracelluläre, hereditäre Symbiose beim *Marгарodes*. [In Czech with German summary.] *Biol. Spisy*, Brno **2** 1923 pp. 217-237, 11 figs. [Hem.]

2713.—Šulc, K. Die intracelluläre Symbiose bei den Fulgoriden (Homoptera). [In Czech with German summary.] *Biol. Spisy*, Brno **3** 1924 pp. 13-86, 56 figs.

2714.—Sulma, M. Notizen über polnische Cerambycidae. I. [In Polish with German summary.] *Polsk. Pismo ent.*, Lemberg **10** 1931 pp. 141-143. [Col.]

2714a.—Šumacov, G. G. Catalogue des espèces paléarctiques de tribu Mylabrina (Coleoptera, Meloidae). *Sitz-Ber. naturf. Ges. Tartu*, Dorpat **37** 1930 pp. 1-114.

Sumner, R. *see* Cockerell & Sumner.

2715.—Suomalainen, E. Lepidopterologische Beobachtungen während einer Reise nach Muonio und Enontekiö im Sommer 1928. *Ann. Soc. zool.-bot. fenn.* Vanamo, Helsinki **8** 1929 pp. 78-104 3 figs.

2717.—Suster, P. M. Faune tachinologique de la Dobrogea. *Ann. sci. Univ. Jassy* **16** 1931 pp. 585-600. [Dipt.]

2718.—Suster, P. M. Contribution à la faune diptérologique de la Roumanie; famille des Anthomyidae. *Ann. sci. Univ. Jassy* **16** 1931 pp. 601-610. [Dipt.]

2719.—Suzuki, B. Illustrations of the Japanese mulberry insects. [In Japanese.] Maruyana-Sha Book Shop, Tokyo 1930 xvi + 122 pp., 20 pls.

Suzuki, B. *see* Inoue & Suzuki.

2720.—Sweetman, H. L. Preliminary report on the physical ecology of certain *Phyllophaga* (Scarabaeidae, Coleoptera). *Ecology*, Brooklyn **12** 1931 pp. 401-422, 7 figs.

Swellengrebel, N. H. *see* Buck, Schoute & Swellengrebel.

2721.—Swezey, O. H. Some new records of insects on Molokai. *Proc. Hawaii. Ent. Soc.* 1929-30, Honolulu **7** 1931 pp. 485-488.

2722.—Swezey, O. H. Some observations on the insect faunas of native forest trees in the Olinda Forest on Maui. *Proc. Hawaii. Ent. Soc.* 1929-30, Honolulu **7** 1931 pp. 493-504.

2723.—Swezey, O. H. Records of immigrant insects for 1929 and 1930. *Proc. Hawaii. Ent. Soc.* 1929-30, Honolulu **7** 1931 p. 516.

2724.—Swift, R. H. The sacred beetles of Egypt. *Bull. S. Calif. Acad. Sci.*, Los Angeles **30** 1931 pp. 1-14, 4 pls. [Col.]

2725.—Swingle, M. C. Notes on digestion in seven species of insects. *Ann. Ent. Soc. Amer.*, Columbus **24** 1931 pp. 177-180.

2726.—Swingle, M. C. Hydrogen ion concentration within the digestive tract of certain insects. *Ann. Ent. Soc. Amer.*, Columbus **24** 1931 pp. 489-495.

2727.—Swingle, M. C. The influence of soil acidity on the pH value of the contents of the digestive tract of Japanese beetle larvae. *Ann. Ent. Soc. Amer.*, Columbus **24** 1931 pp. 496-502, 1 fig. [Col.]

2728.—Syms, E. E. The British Snake-flies (*Raphidia*). *Essex Nat.*, Stratford **23** 1931 pp. 82-87, 1 pl. 4 figs. [Neur.]

2729.—Szulczewski, J. W. Die Zooecidien von Gdynia und Umgebung. [In Polish with German summary.] *Kosmos*, Lemberg **55** 1930 pp. 249-272.

2730.—Szulczewski, J. W. Entomo- und zooecidiologischen Notizen aus dem Kreise Lubliniec (Oberschlesien). [In Polish with German summary.] *Polsk. Pismo ent.*, Lemberg **10** 1931 pp. 124-141

2731.—**Tahir Bey, E.** Recherches cytologiques sur la valeur morphologique et le rôle des glandes exuviales chez *Bombyx mori*. Bull. Histol. appl. Path. Tech. microsc., Lyon **6** 1929 pp. 352–358, 4 figs. [Lep.]

2732.—**Tahir Bey.** Recherches histo-physiologiques sur le tube digestif du ver à soie, au cours de la mue. Bull. Histol. appl. Path. Tech. microsc., Lyon **6** 1929 pp. 361–370, 5 figs. [Lep.]

2733.—**Takagi, G.** Studies on the control of the larch sawfly. [In Japanese and English.] Bull. For. Expt. Sta. Govt.-Gen. Chosen **12** 1931 78 & 35 pp. 8 pls. 15 figs. [Hym.]

2734.—**Takahashi, R.** Some Aphids from Hangchow, China. Proc. Nat. Hist. Soc. Fukien Christian Univ., Foochow **3** 1930 reprint 1 p. [Hem.]

2735.—**Takahashi, R.** Aphididae of Formosa. Part 6. Rep. Dept. Agric. Govt. Res. Inst. Formosa, Taihoku no. **53** 1931 127 pp. 1 chart 1 fig. [Hem.]

2736.—**Takahashi, R.** Descriptions of some new Formosan Coccidae (Rhynchota). Bull. Ent. Res., London **22** 1931 pp. 211–220, 9 figs. [Hem.]

2837.—**Takahashi, R.** Some Formosan whiteflies. J. Soc. Trop. Agric., Taihoku **3** 1931 pp. 218–224, 5 figs. [Hem.]

2738.—**Takahashi, R.** Some Coccidae of Formosa. Trans. Nat. Hist. Soc. Formosa, Taihoku **21** 1931 pp. 1–5, 5 figs. [Hem.]

2739.—**Takahashi, R.** Some whiteflies of Formosa. Trans. Nat. Hist. Soc. Formosa, Taihoku **21** 1931 pp. 203–209, 12 figs.; 261–265, 3 figs. [Hem.]

2740.—**Takano, S.** On the species and scientific names of the flies parasitic on the silkworm in Japan. [In Japanese.] Insect Wld., Gifu **35** 1931 pp. 254–260. [Lep., Dipt.]

Takato, R. see Harukawa, Takato & Kumashiro.

2741.—**Takeuchi, K.** A revisional list of the Japanese Pamphiliidae, with descriptions of nine new species. Trans. Kansai Ent. Soc., Osaka **1** 1930 pp. 3–16. [Hym.]

2742.—**Takeuchi, K.** Some moths new to the fauna of the island of Yakushima. [In Japanese.] Trans. Kansai Ent. Soc., Osaka **1** 1930 pp. 49–52. [Lep.]

2743.—**Takeya, C.** Some Tingitidae of the Japanese Empire. [In Japanese with English descriptions.] Mushi (J. Fukuoka Ent. Soc.) **4** 1931 pp. 65–84, 3 pls. 1 fig. [Hem.]

Takeya, C. see Esaki & Takeya.

2744.—**Takizawa, M.** The Haliplidae of Japan. Insecta matsum., Sapporo **5** 1931 pp. 137–143, 2 figs. [Col.]

2745.—**Takizawa, M.** The Gyrinidae of Japan. Insecta matsum., Sapporo **6** 1931 pp. 13–21. [Col.]

2746.—**Talbot, G.** On the status of some generic names in the family Pieridae (Lep. Rhop.). Entomologist, London **64** 1931 pp. 227–232.

2747.—**Talbot, G.** The naming of individual variants in Lepidoptera. Ent. News, Philadelphia **42** 1931 pp. 80–82.

2748.—**Talbot, G.** Protective device in *Rhodogastria* (Lep. Het. Arctiidae). Proc. Ent. Soc. London **5** 1931 p. 83.

2749.—**Tams, W. H.** New African Lasiocampidae. Ann. Mag. Nat. Hist., London (10) **7** 1931 pp. 1–17, 2 pls. [Lep.]

2749a.—**Tams, W. H. T.** African Lasiocampidae: A correction, and the description of a new species of *Pachypasa*. Ann. Mag. N.H. (10) **8** 1931 pp. 36–37, 1 pl. [Lep.]

Tams, W. H. T. see Thomas et al.

Tandy, G. see Stevenson, Tandy & Spender.

2750.—**Tarbinsky, S.** Revision of the Palaearctic species of the genera *Gomphoceris* Thunb. and *Dasyhippus* Uvar. (Acrididae). [In Russian.] Bull. Inst. Contr. Pests Dis., Leningrad **1** 1931 pp. 127–157, 17 figs. 2 maps. [Orth.]

2751.—**Tarbinsky, S.** The distribution of Orthopterous insects in U.R.S.S. III. [In Russian.] Bull. Inst. Contr. Pests Dis., Leningrad **1** 1931 pp. 159–164.

2752.—**Tarbinsky, S.** The Asiatic species of the genus *Ramburiella* Bol. [In Russian with English summary.] Bull. Inst. Contr. Pests Dis., Leningrad **1** 1931 pp. 165–170, 2 figs. [Orth.]

2753.—Tareev, A. I. & Nenjukov, D. V. Effect of poisons on normal digestion and the blood of *Calliptamus italicus*. [In Russian with English summary.] Bull. Plant Prot., Leningrad 3 1931 pp. 39-49. [Orth.]

Tareev, A. I. *see* Nenjukov & Tareev.

Tarel, R. *see* Barthe & Tarel.

2754.—Tateishi, S. On the chromosomal variations of the large brown cricket (*Brachytrupes portentosus* Lichtenstein). [In Japanese with English summary.] J. Soc. Trop. Agric., Taihoku 3 no. 1 1931 pp. 4-15, 1 pl. 2 figs. [Orth.]

2755.—Tauchert, F. Untersuchungen über Atmung und Wasserdampf-abgabe bei Insekten. Z. Biol., Munich 88 1929 pp. 377-381.

2756.—Tauchert, F. Weitere Stoffwechseluntersuchungen an Insekten. Z. Biol., Munich 89 1930 pp. 541-546, 1 fig.

2757.—Tavares, J. S. Cecidia nova seu quae hucusque in Peninsula iberica non innotuerant. [Contd.] Brotéria, Sér. Zool., Lisbon 26 1930 pp. 97-112, 1 fig. [Dipt., Lep., Hem.]

2758.—Tavares, J. S. Cecidias de Zumárraga (Guipúzcoa, Espanha). Brotéria, Sér. Zool., Lisbon 26 1930 pp. 113-119.

2759.—Tavares, J. S. Os Cynipides da Peninsula ibérica. [Contd.] Brotéria, Sér. Zool., Lisbon 27 1931 pp. 5-100, 4 pls. 36 figs.

2760.—Taylor, E. On the pupation of *Cylindrotoma distinctissima* Meig., a Tipulid infesting *Catha palustris* L. North Western Nat., Arbroath 6 1931 pp. 17-18. [Dipt.]

2761.—Taylor, E. B. The morphology of the Tenthredinid head. Proc. R. Phys. Soc., Edinburgh 22 1931 pp. 41-70, 10 pls. [Hym.]

2762.—Taylor, I. R. & Crescitelli, F. Glucose and water concentrations during pupal development of *Galleria mellonella* (bee moth). Anat. Rec., Philadelphia 51 1931 suppl. p. 46. [Lep.]

2763.—Taylor, I. R. & Steinbach, H. B. Respiratory metabolism during pupal development of *Galleria mellonella* (bee moth). Physiol. Zool., Chicago 4 1931 pp. 604-619, 10 figs. [Lep.]

2764.—Taylor, J. S. Notes on the biology of *Laphygma exempta*, Walk., and *L. exigua*, Hbn. (Lep., Noctuidae). Bull. Ent. Res., London 22 1931 pp. 209-210.

2765.—Taylor, J. S. A case of "assembling" in the Phasmidae. Proc. Ent. Soc. London 6 1931 p. 45. [Orth.]

2766.—Taylor, R. L. On Dyar's rule and its application to sawfly larvae. Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 451-466, 1 fig. [Hym.]

2767.—Teissier, G. Recherches morphologiques et physiologiques sur la croissance des insectes. Trav. Sta. biol. Roscoff, Paris 9 1931 pp. 27-238.

Teixeria Mendes *see* Mendes.

2768.—Tenenbaum, E. Variabilität der Flekengrösse innerhalb der Palästinarenasse von *Epilachna chrysomelina*. Naturwissenschaften, Berlin 19 1931 pp. 490-493, 14 figs.

2769.—Tenenbaum, S. Neue für Polen Coleopteren-Arten und Varietäten, nebst neuen Fundorten früher bekannten Arten. V. Fragm. faun. Mus. zool. polon., Warsaw 1 1931 pp. 329-359.

2770.—Tennant, R. A maximum point in an effect of prolonged X-ray irradiation upon *Drosophila* larvae. Science, New York 73 1931 pp. 567-568, 1 fig. [Dipt.]

2771.—Teodoro, G. Coccidologica, vii-viii. Atti Ist. veneto, Venice 85 1926 pp. 1157-1159.

2772.—Teodoro, G. Sui dischi ceripari perivulvari dei Diaspiti e sulla variabilità de loro numero. Boll. Zool., Naples 1 1930 pp. 69-73. [Hem.]

2773.—Teodoro, G. L'apparato di uncinamento fra elite ed ali negli Eterotteri. Ottava contribuzione. Boll. Zool., Naples 1 1930 pp. 137-141. [Hem.]

2774.—Teodoro, G. Sulla colorazione delle uova del *Bombyx mori*. Boll. Zool., Naples 2 1931 pp. 33-38. [Lep.]

2775.—Teodoro, G. Sulla presenza del glutatione nell'embrione del *Bombyx mori*. Boll. Zool., Naples 2 1931 pp. 93-95. [Lep.]

2776.—Teodoro, G. Sulla presenza di una tirosinasi nella emolinfa del *Bombyx mori* L. Boll. Zool., Naples 2 1931 pp. 235-238. [Lep.]

2777.—Teodoro, G. Sulla natura del pigmento della sierosa nelle uova del *Bombyx mori*. Boll. R. Staz. sperim. Gelsic., Ascoli Piceno 10 1931 pp. 85-93. [Lep.]

2778.—Teodoro, G. Pigmentogenesi nell'uova del *Bombyx mori* L. Industr. bacolog., Milan 5 1931 pp. 2-3. [Lep.]

2779.—Teranishi, C. Ants of the Palaearctic part of Japan (1). [In Japanese.] Trans. Kansai Ent. Soc., Osaka 1 1930 pp. 17-26. [Hym.]

2780.—Terao, A. & Wakamori, N. Influence of the feeding of the thyroid gland and the anterior lobe of hypophysis on the second generation of the silk-worm, *Bombyx mori* L. Proc. Imp. Acad. Tokyo 7 1931 pp. 205-207. [Lep.]

2781.—Teubner-Predmerski, E. Ein Beitrag zur Eiablage von *Theobaldia annulata*. Z. angew. Ent., Berlin 18 1931 pp. 191-192. [Dipt.]

2782.—Teyrovsky, V. Zur meristischen Variabilität der männlichen Pala von *Sigara falleni* (Fieb.) (Hemiptera, Corixidae). Arch. zool. ital., Torino 16 1931 pp. 593-600, 4 figs.

2783.—Theodor, O. On African sandflies (Dipt.). Bull. Ent. Res., London 22 1931 pp. 469-478, 2 pls. 6 figs.

Theodor, O. see Adler & Theodor.

2784.—Théry, A. Note sur le genre *Euchroma* Sol. (Coleopt. Buprestidae). Ann. Soc. linn. Lyon 76 1931 pp. 166-169, 4 figs.

2785.—Théry, A. Notes sur quelques espèces du genre *Ptychomus* Mars. Boll. Soc. ent. ital., Genoa 63 1931 pp. 103-106. [Col.]

2786.—Théry, A. Observations sur quelques Buprestidae du genre *Halecia* C. & G. et notes diverses suivies des descriptions de quelques Buprestides nouveaux. Bull. Ann. Soc. ent. Belg., Brussels 70 (1930) 1931 pp. 289-304. [Col.]

2787.—Théry, A. Description du genre *Brachycisseis* (Col. Buprestidae). Bull. Soc. ent. Fr., Paris 1931 pp. 26-29, 2 figs.

2788.—Théry, A. Note sur le genre *Aristosoma*. Bull. Soc. ent. Fr., Paris 1931 pp. 109-112. [Col.]

2789.—Théry, A. Note sur *Polycesta cotti* Fairm. et description d'une *Polycesta* nouvelle de la faune paléarctique. Bull. Soc. Hist. nat. Afr. N., Algiers 22 1931 pp. 75-76, 1 fig. [Col.]

2789a.—Théry, A. Recherches synonymiques sur les Buprestides et notes diverses. Bull. Soc. Sci. nat. Maroc, Rabat 11 1931 pp. 27-33. [Col.]

2790.—Théry, A. Buprestides nouveaux d'Afrique (troisième note). Bull. Soc. Sci. nat. Maroc, Rabat 11 1931 pp. 34-56, 3 figs. [Col.]

2791.—Théry, A. Quelques remarques sur le genre *Pachyschelus* Sol. et descriptions de formes nouvelles. C.R. Assoc. franç. Avanc. Sci. Alger 1930, Paris 1931 pp. 259-262. [Col.]

2792.—Théry, A. Notes sur quelques espèces nouvelles du genre *Sponsor*. C.R. Assoc. franç. Avanc. Sci. Alger 1930, Paris 1931 pp. 587-590. [Col.]

2793.—Théry, A. Quelques considérations sur la répartition géographique des Buprestides. C.R. Soc. Biogéogr., Paris 8 1931 no. 68 pp. 60-62 [Col.]

2794.—Thiel, P. H. van. Züchtungsversuche in Zusammenhang mit dem Rassenproblem bei *Anopheles maculipennis*. Arch. Schiffs- u. Tropenhyg., Leipzig 35 1931 pp. 208-227, 2 figs. [Dipt.]

2795.—Thienemann, A. Die beiden *Chironomus*-Arten der Tiefenfauna der norddeutschen Seen. Ein hydrobiologisches Problem. Verh. int. Ver. Limnol. Kiel, Stuttgart 1 (1922) 1923 pp. 108-143, 3 graphs. [Dipt.]

2796.—Thienemann, A. Dipteren aus den Salzwässern von Oldesloe. (Mit einer Bestimmungstabelle der Larven und Puppen der Gattung *Dasyhelea*.) Mitt. geogr. Ges. Lübeck (2) 31 1926 pp. 102-126.

2797.—Thirumalachar, B. Ovum-like bodies in the testes of the common cockroach, *Periplaneta americana*. Half Yearly J. Mysore Univ., Bangalore 2 1928 pp. 51-54, 1 fig. [Orth.]

2798.—Thomas, B. et al. A camel journey across the Rub al Khali. Geogr. J., London 78 1931 pp. 209-242, 5 pls. [Insects pp. 230-235.]

2799.—Thomas, C. A. The predatory enemies of Elateridae (Coleoptera). *Ent. News*, Philadelphia **42** 1931 pp. 137-140, 158-167.

2800.—Thomas, I. The structure and life-history of *Sciara nitidicollis* Meig. (Diptera). *Proc. Zool. Soc. London* 1930 1931 pp. 1009-1026, 14 figs.

2801.—Thompson, W. R. On the reproduction of organisms with overlapping generations. (With an appendix by H. E. Soper.) *Bull. Ent. Res.*, London **22** 1931 pp. 147-172, 6 figs.

Thomsen, M. *see* Rostrup & Thomsen.

2802.—Thornley, A. The invertebrate fauna of Cornwall. *J. R. Inst. Cornwall*, Truro **23** 1929 pp. 87-102; 1930 pp. 288-296. [Dipt.]

2803.—Thorpe, W. H. Biological races in insects and their significance in evolution. *Ann. Appl. Biol.*, Cambridge **18** 1931 pp. 406-414.

2804.—Thorpe, W. H. Further observations on biological races in *Hyponomeuta padella* (L.). *J. Linn. Soc. London Zool.* **37** 1931 pp. 489-492. [Lep.]

2805.—Thorpe, W. H. Miscellaneous records of insects inhabiting the saline waters of the Californian desert regions. *Pan-Pacific Ent.*, San Francisco **7** 1931 pp. 145-153.

2806.—Thorpe, W. H. The biology, post-embryonic development and economic importance of *Cryptochaetum iceryae* (Diptera, Agromyzidae) parasitic on *Icerya purchasi* (Coccidae, Monophlebini). *Proc. Zool. Soc. London* 1930 1931 pp. 929-971, 5 pls. 23 figs.

2807.—Tillyard, R. J. Kansas Permian insects. Pt. 13. The new order Protelytroptera, with a discussion of its relationships. *Amer. J. Sci.*, New Haven, Conn. (5) **21** 1931 pp. 232-266, 18 figs. [Fossil.]

2808.—Tillyard, R. J. On a collection of stone-flies (Order Perlaria) from South Africa. *Ann. S. Afr. Mus.*, Cape Town **30** 1931 pp. 109-130, 13 figs. [Plecopt.]

2809.—Tillyard, R. J. The wing-venation of the order Isoptera. I. Introduction and the family Mastotermitidae. *Proc. Linn. Soc. N.S.W.*, Sydney **56** 1931 pp. 371-390, 1 pl. 8 figs.

2810.—Tillyard, R. J. The evolution of the class Insecta. *Rep. Aust. Ass. Adv. Sci.*, Brisbane **20** (1930) 1931 pp. 193-241, 7 figs.

2811.—Timoféeff-Ressovsky, N. W. Einige Versuche an *Drosophila melanogaster* über die Art der Wirkung der Röntgenstrahlen auf den Mutationsprozess. *Arch. Entw.Mech. Org.*, Berlin **124** 1931 pp. 654-665, 3 figs. [Dipt.]

2812.—Timoféeff-Ressovsky, N. W. Gerichtetes Variieren in der phänotypischen Manifestierung einiger Genovariationen von *Drosophila funebris*. *Naturwissenschaften*, Berlin **19** 1931 pp. 493-497, 7 figs. [Dipt.]

2813.—Timoféeff-Ressovsky, H. Ueber phänotypische Manifestierung der polytopen (pleiotropen) Genovariation Polyphaen von *Drosophila funebris*. *Naturwissenschaften*, Berlin **19** 1931 p. 765-768, 5 figs. [Dipt.]

2814.—Timon-David, J. Observations sur quelques Diptères du Briançonnais. *Bull. Soc. linn. Provence, Marseilles* **4** 1931 pp. 22-24.

2815.—Timon-David, J. Contribution à l'étude de la spécificité biochimique des parasites. Huile d'*Exeristes roborator* Fab. *C.R. Soc. Biol.*, Paris **106** 1931 pp. 829-831. [Hym.]

2816.—Tirelli, M. Sbocco dei canali malpighiani nell'intestino medio. *Boll. Mus. Zool. Anat. comp. Univ. Genova*, Siena **9** 1929 no. 30 18 pp. 3 figs. [Ephemeropt.]

2817.—Tirelli, M. Aumento di viscosità del succo delle uova di *Bombyx mori* in seguito a riscaldamento. *Z. vergl. Physiol.*, Berlin **14** 1931 pp. 737-741, 3 figs. [Lep.]

2818.—Tirelli, M. Il comportamento del glicogeno durante lo sviluppo embrionale del *Bombyx mori*. *Z. vergl. Physiol.*, Berlin **15** 1931 pp. 148-158, 6 figs. [Lep.]

2819.—Tirelli, M. Ipotesi spaziale e meccanica sulla blastocinesi degli insetti. *Zool. Jahrb.*, Jena Abt. Allg. *Zool.* **49** 1931 pp. 59-68, 4 pls.

2820.—Titschack, E. Keratinverdauung bei steriler Mottenaufzucht. *Zool. Anz.*, Leipzig **93** 1931 pp. 4-6. [Lep.]

2821.—Tjeder, B. Some notes on *Symphorobius fuscescens* Wallengr. Ent. Tidskr., Stockholm 51 1930 pp. 31–35. [Neur.]

2822.—Tjeder, B. O *Ithytrichia lamellaris* Eat. and *clavata* Mort. in Dalecarlia. Ent. Tidskr., Stockholm 51 1930 pp. 134–138, 2 pls. [Trichopt.]

2823.—Tjeder, B. Notes on some Swedish Trichoptera. Ent. Tidskr., Stockholm 51 1930 pp. 198–205, 9 figs.

2824.—Tjeder, B. Preliminary descriptions of three new *Coniopteryx* species from northern Europe. Ent. Tidskr., Stockholm 51 1930 p. 206. [Trichopt.]

Tjeder, B. see Sjöstedt et al.

2825.—Toll, S. Beitrag zur Tortricidenfauna der Wojewodschaften Poznań und Pomorze. Polsk. Pismo ent., Lemberg 10 1930 pp. 59–68, 1 pl. [Lep.]

2826.—Toll, S. Einige seltene und interessante Schmetterlingsaberrationen meiner Sammlung. [In Polish with German summary.] Polsk. Pismo ent., Lemberg 10 1931 pp. 119–124, 1 pl. [Lep.]

2827.—Tomaszewski, W. Cecidomyiden (Gallmücken) als Grasschädlinge. Arb. biol. Reichsanst. Land- u. Forstw., Berlin 90 1931 pp. 1–15, 1 pl. 16 figs. [Dipt.]

2828.—Tonon, A. L'albinismo nel filugello. [With French summary p. 31.] Boll. Staz. sper. Gesicolt. Ascoli Piceno 10 1931 pp. 20–21. [Hym.]

2829.—Torka, V. Ichneumoniden Oberschlesiens (Hym.) [contd.]. Z. wiss. Insekt Biol., Berlin 26 1931 pp. 9–25.

2830.—Toumanoff, C. Sur la présence d'une variété d'*Anopheles jeyporiensis* James au Tonkin et son rôle dans la transmission locale du paludisme. Bull. Soc. Path. exotique, Paris 24 1931 pp. 958–967, 7 figs. [Dipt.]

2831.—Toumanoff, C. Sur la ponte de *Carausius (Dixippus) morosus* Br. et Redt. et action de différents facteurs sur celle-ci. Bull. Soc. zool. Fr., Paris 55 1931 pp. 501–509, 6 graphs. [Orth.]

2832.—Toumanoff, C. & Zernoff, V. Expériences et observations sur l'éclosion des oeufs de *Carausius (Dixippus) morosus*. Bull. Soc. zool. Fr., Paris 55 1931 pp. 510–516, 1 fig. [Orth.]

2833.—Townsend, C. H. T. Notes on Old-World Oestromuscoid Types.—Part I. Ann. Mag. Nat. Hist., London (10) 8 1931 pp. 369–391. [Dipt.]

2834.—Townsend, C. H. T. Notes on American Oestromuscoid types. Rev. Ent., São Paulo 1 1931 pp. 65–104, 157–183. [Dipt.]

2835.—Townsend, C. H. T. New genera and species of American Oestromuscoid flies. Rev. Ent., São Paulo 1 1931 pp. 313–354, 437–479. [Dipt.]

2836.—Townsend, C. H. T. On *Neivamyia* and its allies. Rev. Ent., São Paulo 1 1931 pp. 479–482. [Dipt.]

2837.—Trägårdh, I. Entomologien i nutid och framtid. Ent. Tidskr., Stockholm 51 1930 pp. 1–6.

2838.—Trägårdh, I. Studien über die Gänge der Borkenkäfer. Verh. deuts. Ges. angew. Ent. 8. Mitglieder-versamml. Rostock Aug. 1930, Parey, Berlin, 1931 pp. 54–64, 10 figs. [Col.]

2839.—Trägårdh, I. Zwei forstentomologisch wichtige Fliegen. Z. angew. Ent., Berlin 18 1931 pp. 672–690, 30 figs. [Dipt.]

2840.—Trappen, A. von der. Die Fauna von Württemberg. Die Käfer. Jhft. Ver. vaterl. Naturk. Württemberg, Stuttgart 86 1930 pp. 65–94. [Col.]

2841.—Travassos, L. Algumas observações sobre a *Dermatobia hominis* (L.J., 1781) (Diptera : Oestridae). Bol. biol., Rio de Janeiro fasc. 18 1931 pp. 35–37, 1 pl.

2842.—Traver, J. R. Seven new southern species of the mayfly genus *Hexagenia*, with notes on the genus. Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 591–621, 1 pl. 7 figs. [Ephemeropt.]

2843.—Traver, J. R. A new mayfly genus from North Carolina. Canad. Ent., Orillia 63 1931 pp. 103–109, 1 pl. [Ephemeropt.]

2844.—Traver, J. R. The Ephemerid genus *Baetisca*. J. New York Ent. Soc. 39 1931 pp. 45–62, 2 pls.

2845.—Tremoleras, J. Notas sobre Carabidos platenses. Rev. Soc. ent. argent., B. Aires 3 1931 pp. 239–242 [Col.]

2846.—Tremoleras, J. Deux Carabiques nouveaux de l'Uruguay. *Rev. Soc. ent. argent.*, B. Aires 3 1931 pp. 247-248. [Col.]

2847.—Trotter, A. Contributo alla illustrazione cecidologica delle Antille. *Marcellia*, Avellino 26 (1929) 1930 pp. 78-80 (1929) 1931 pp. 81-114, 1 pl. 11 figs.

2848.—Tsai, P. H. Zwei neue *Oxya*-Arten aus China (Orth. Acrid.). *Mitt. zool. Mus. Berlin* 17 1931 pp. 436-440, 2 figs.

Tshesnokov *see* Chesnokov.

2849.—Tuleschkow, K. Zweiter Beitrag zur Lepidopterenfauna des Ali-Botusch Gebirges in Mazedonien. [In Bulgarian with German summary.] *Mitt. bulgar. ent. Ges. Sofia* 6 1931 pp. 189-202.

Tuleschkow, K. *see* Buresch & Tuleschkow.

2850.—Turati, E. Spizzichi di Lepidotterologia—II. *Boll. Soc. ent. ital.*, Genoa 63 1931 pp. 139-151, 3 figs.

2851.—Turner, A. J. Revision of Australian Lepidoptera. Supplementary. *Proc. Linn. Soc. N.S.W.*, Sydney 56 1931 pp. 325-344.

2852.—Turner, H. J. "The British Noctuae and their varieties" (J. W. Tutt). Supplementary notes (contd.). *Ent. Rec.*, London 43 1931 sep. pp. 165-212.

2853.—Tutton, M. W. L. The Hymenoptera of Eton and the surrounding country. *Ann. Rept. Eton Coll. Nat. Hist. Soc.* 1930-31 pp. 102-105.

2854.—Tuxen, S. L. Danske Protura. *Ent. Medd.*, Copenhagen 17 1931 pp. 306-311, 3 figs.

2855.—Tuxen, S. L. Monographie der Proturen. i. Morphologie. Nebst Bemerkungen über Systematik und Oekologie. *Z. Morph. Oekol. Tiere*, Berlin 22 1931 pp. 671-720, 20 figs.

2856.—Twinn, C. R. Notes on the biology of mosquitoes of eastern Canada. *Proc. 18th Ann. Mtg. New Jersey Mosq. Exterm. Assoc.*, New Brunswick 1931 pp. 10-22. [Dipt.]

2857.—Uchida, T. Einige neue Gattungen und Arten der Japanischen echten Schlupfwespen. *Insecta matsum.*, Sapporo 5 1931 pp. 143-148, 3 figs. [Hym.]

2858.—Uchida, T. Eine neue Art und eine neue Form der Ichneumoniden aus China. *Insecta matsum.*, Sapporo 5 1931 pp. 157-158. [Hym.]

2859.—Uchida, T. Beitrage zur Kenntnis der Tribus Banchini aus Japan. *Insecta matsum.*, Sapporo 6 1931 pp. 45-54. [Hym.]

2860.—Uchida, T. Beitrag zur Kenntnis der Cryptinenfauna Formosas. *J. Fac. Agric. Hokkaido Imp. Univ.*, Sapporo 30 1931 pp. 163-193, 1 pl. 15 figs. [Hym.]

2861.—Uéno, M. Key to Japanese mayfly nymphs (Ephemeroptera). [In Japanese.] *Trans. Kansai Ent. Soc.*, Osaka 1 1930 pp. 27-36, 14 figs.

2862.—Uéno, M. Einige neue Ephemeropteren und Plecopteren aus Mittel-Japan. *Annot. zool. jap.*, Tokyo 13 1931 pp. 91-104, 8 figs.

2863.—Uéno, M. Contributions to the knowledge of Japanese Ephemeroptera. *Annot. zool. jap.*, Tokyo 13 1931 pp. 189-226, 2 pls. 24 figs.

2864.—Uéno, M. Some notes on the mayfly fauna of Formosa. [In Japanese.] *Trans. Nat. Hist. Soc. Formosa, Taihoku* 21 1931 pp. 210-216. [Ephemeropt.]

2865.—Uffeln, K. Die sogenannten "Kleinschmetterlinge" (Microlepidopteren) Westfalens. *Abh. Westf. Prov.-Mus. Naturk.*, Münster 1 1930 pp. 1-98.

2866.—Uffeln, K. Schlupfwespen. *Abh. Westf. Prov.-Mus. Naturk.*, Münster 2 1931 pp. 179-186. [Hym.]

2867.—Uhlmann, E. Ein neuer, hochspezialisierter Trichopterenbau mit Zirkulationsschornsteinen. (Zugleich Entwicklung von *Catagapetus nigrans* McLachlan.) *Zool. Anz.*, Leipzig 97 1931 pp. 1-12, 10 figs.

2868.—Uhlmann, E. Hispinen aus dem holländischen Kolonialgebiet. *Zool. Meded.*, Leiden 13 1930 pp. 178-179, 1 fig. [Col.]

2869.—Uhlmann, E. Suedamerikanische Hispinen aus dem deutschen entomologischen Institut Berlin-Dahlem. 30. Beitrag zur Kenntnis der Hispinen (Col. Chrys.). *Boll. Soc. ent. ital.*, Genoa 63 1931 pp. 58-61.

2870.—Uhmman, E. Afrikanische Hispinen aus dem koeniglichen naturhistorischen Museum zu Bruessel. Bull. Mus. Hist. nat. Belg., Brussels 7 1931 no. 10 pp. 1-10, 2 figs. [Col.]

2871.—Uhmman, E. Hispinen des zoologischen Staatsinstitutes und zoologischen Museums zu Hamburg. (21. Beitrag zur Kenntnis der Hispinen (Col., Chrys.)) Deuts. ent. Z., Berlin 1930 (1931) pp. 161-175, 10 figs.

2872.—Uhmman, E. Hispinen aus Sumatra (Col. Chrys.). Misc. zool. sumat., Medan 54 1931 4 pp.

2873.—Uhmman, E. Philippinische Hispinen aus W. Schultzes Sammlung nebst Arten anderer Forscher. (Col., Chrys.) (contd.). N. Beitr. syst. Insektenk., Berlin 5 1931 pp. 1-15, 34-48, 4 figs., 1 map.

2874.—Uhmman, E. Die Hispinen des Musée du Congo Belge. Rev. Zool. Bot. afr., Brussels 1931 20 pp. 252-256; 21 pp. 74-88, 147-164. [Col.]

2875.—Uhmman, E. Hispinen aus den Museen für Tierkunde und Völkerkunde zu Dresden. 2. Teil. Stettin. ent. Ztg. 92 1931 pp. 219-226, 4 figs. [Col.]

2876.—Uhmman, E. Nachtrag zum "Katalog der *Lasioclista*-Arten" und eine neue *Callispa*-Art. Zool. Meded., Leiden 14 1931 p. 193. [Col.]

2876a.—Uhmman, E. Katalog der afrikanischen Hispinen des Berliner zoologischen Museums. Mitt. zool. Mus., Berlin 17 1931 pp. 836-891. [Col.]

2877.—Ulmer, G. Trichopteren von Afrika (hauptsächlich aus dem Britischen Museum). Deuts. ent. Z., Berlin 1931 pp. 1-29, 30 figs.

2878.—Umnov, N. N. Eine Uebersicht der Fauna der Heuschrecken (Acridiidea) des Alai-Tales. Ent. NachrBl., Troppau 5 1931 pp. 12-17. [Orth.]

2879.—Umnov, N. N. Neue mittelasiatische Arten der Gattung *Chorthippus* Fieb. (Orth. Acridiidea). Ent. NachrBl., Troppau 5 1931 pp. 89-101.

2880.—Umnov, N. N. Die Arten der Gattung *Diexis* Zub. (Orthoptera, Acridiidea.) Wien. ent. Ztg. 47 1931 pp. 187-204.

2881.—Umnov, N. N. Neue Heuschrecken-Arten aus Mittel-Asien (Orthopt. Acridiidea). Wien. ent. Ztg. 48 1931 pp. 132-137.

2882.—Urban, C. Ueber die Puppen von *Gymnetron cellinum* Gyll. und *G. linariae* Pz. Ent. Bl., Berlin 27 1931 pp. 105-106.

2883.—Urban, C. Ueber die Larve des *Olibrus millefolii* Payk. (Col. Phalacr.). Mitt. deuts. ent. Ges., Berlin 2 1931 pp. 39-42.

2884.—Urban, J. Beiträge zur Kenntnis der Geradflügler der Wojewodschaft Poznan. [In Polish with German summary.] Polsk. Pismo ent., Lemberg 10 1931 pp. 50-59. [Orth.]

2885.—Urich, F. W. & Pickles, A. Studies on the incubation of the eggs of the sugar-cane froghopper. I, II. Min. Proc. Froghopper Invest. Comm., Trinidad pt. 18 1930 pp. 64-70, 4 graphs; pt. 20 1931 pp. 253-255, 3 graphs. [Hem.]

Urich, F. W. see Greene, C. T.

2886.—Usow, S. A. Das Aufwachsen, die Ernährung und die Entwicklung der inneren Struktur des Eies von *Bombyx mori* (L.). [In Russian with German summary.] Arb. Moskau. ForschSta. Seide u. Seidenraupenzucht 2 1927 no. 1-2 pp. 95-103. [Lep.]

2887.—Usow, S. A. Die Bildungsquelle der besondern Art der Zellvermehrung und Verhältnis der letzteren zur Mitose und gewöhnlicher Amitose bei *Bombyx mori* L. [In Russian with German summary.] Arb. Moskau. ForschSta. Seide u. Seidenraupenzucht 3 1928 no. 1-4 pp. 165-221 [Lep.]

2888.—Uvarov, B. P. Notes on the genus *Iris*, Saussure (Orthoptera, Mantidae). Ann. Mag. Nat. Hist., London (10) 8 1931 pp. 234-238, 1 pl.

2888a.—Uvarov, B. P. Five new species of the genus *Batrachotetrix* Sauss. (Orthoptera, Acrididae). Ann. Mag. Nat. Hist., London (10) 8 1931 pp. 586-592, 4 figs.

2889.—Uvarov, B. P. Orthoptera collected by Professor T. D. A. Cockerell in Morocco. Bull. Soc. Sci. nat. Maroc, Rabat 10 (1930) 1931 pp. 210-214, 4 figs.

2890.—Uvarov, B. P. A preliminary revision of the genus *Aeropus* Gistl (*Gomphocerus* auct. partim) (Acrid.). Eos, Madrid 7 1931 pp. 85-94, 5 figs.

2891.—Uvarov, B. P. Orthoptera palaeartica critica. IX. The genus *Kabulia* Ramme (Acrid.). Eos, Madrid 7 1931 pp. 223–228, 2 figs.

2892.—Uvarov, B. P. Some Acrididae from South China. Lingnan Sci. J., Canton 10 1931 pp. 217–221. [Orth.]

2893.—Uvarov, B. P. Insects and climate. Trans. Ent. Soc. London 79 1931 pp. 1–247, 53 figs.

Uvarov, B. P. *see* Thomas et al.

2894.—Uvarov, E. B. The ash content of insects. Bull. Ent. Res., London 22 1931 pp. 453–457.

2895.—Uyttenboogaart, D. L. Vergelijkende studie over de soorten van het genus *Otiorrhynchus* s. str. (Col., Curc.), behorende tot Reitter's 4e en 5e Rotte. Tijdschr. Ent., Amsterdam 74 1931 pp. 281–298.

Vacher de Lapouge *see* Lapouge.

2896.—Valentine, J. M. New caver-nicole Carabidae of the subfamily Trechinae Jeannel. J. Elisha Mitchell Sci. Soc., Chapel Hill 46 1931 pp. 247–258, 3 pls. [Col.]

2897.—Valentine, J. M. The olfactory sense of the adult mealworm beetle *Tenebrio molitor* (Linn.). J. Exp. Zool., Philadelphia 58 1931 pp. 165–228, 3 pls. 15 figs. [Col.]

2898.—Valle, K. J. Materialien zur Odonatenfauna Finnlands. II. *Somatochlora sahlbergi* Trybom. Notul. ent., Helsingfors 11 1931 pp. 41–51, 8 figs.

2899.—Van Atta, E. W. & L. C. The spectrum analysis of eye color in *Drosophila*. Amer. Nat., New York 65 1931 pp. 382–384, 1 fig. [Dipt.]

2900.—Van Bemmelen, J. F. Onderzoek der kleurentekening van insecten. Vakblad Biol., Helder 3 1922 pp. 65–73

2901.—Vance, A. M. *Apanteles thompsoni* Lyle, a Braconid parasite of the European corn borer. Tech. Bull. U.S. Dept. Agric., Washington, D.C. no. 233 1931 28 pp. 7 figs. [Hym., Lep.]

2902.—Vandel, A. La parthénogenèse. Paris, Doin & Cie. Encyc. sci., Biblio. Biol. gén. 1931 xix + 412 pp. 42 figs.

2903.—Vandel, A. Etude d'un gynandromorphe (dinergatandromorphe) de *Pheidole pallidula* Nyl.

(Hyménoptères—Formicidés). Bull. biol. Fr.-Belg., Paris 65 1931 pp. 114–129, 2 figs.

2904.—Van-der-Flass, D. Bemerkungen über den Bau der Haut der Raupen (*Antheraea pernyi* Guér.). [In Russian with German summary.] Arb. Moskau. ForschSta. Seide u. Seidenraupenzucht 3 1928 no. 1–4 pp. 225–244, 1 pl. [Lep.]

2905.—Van der Goot, P. *Laphygma exempta* Walker, een Legerrupsenplaag bij padi en mais in 1930. [In Dutch with English summary.] Korte Meded. Inst. Plantenziekt., Buitenzorg no. 17 1931 12 pp. 1 pl. [Lep.]

2906.—Van der Meer Mohr, J. C. Notes on the fauna of Pulau Berhala. Treubia, Buitenzorg 12 1930 pp. 277–298, 4 figs.

2907.—Van der Meer Mohr, J. C. Ueber Ameisen als Schneckenfeinde. Misc. zool. sumat., Medan 52 1931 3 pp. 1 pl. [Hym.]

2908.—Van Duzee, M. C. New South American species of Dolichopidae. Amer. Mus. Nov., New York no. 483 1931 26 pp. 29 figs. [Dipt.]

2909.—Van Duzee, M. C. New South and Central American Dolichopidae. Amer. Mus. Nov., New York no. 484 1931 14 pp. 13 figs. [Dipt.]

2910.—Van Duzee, M. C. New species of Dolichopodidae taken by Mr. and Mrs. F. W. Edwards in South America. Ann. Mag. Nat. Hist., London (10) 7 1931 pp. 243–255, 11 figs. [Dipt.]

2911.—Van Duzee, M. C. A new species of Dolichopodidae from Java, in the collection of the California Academy of Sciences. Pan-Pacific Ent., San Francisco 8 1931 pp. 17–18. [Dipt.]

Van Slooten, J. *see* Soesilo & Van Slooten.

2912.—Van Someren, V. G. L. & Rogers, K. St. A. The butterflies of Kenya and Uganda. Part IX. J. E. Afr. Ug. Nat. Hist. Soc., Nairobi nos. 38–39 (1930) 1931 pp. 18–33, 9 pls. [Lep.]

Varas Arangua *see* Arangua.

Vareton, R. *see* Mezzadrolì & Vareton.

- 2913.—Vayssière, P. Quelques observations sur les Acridiens migrants. C.R. Acad. Sci. Fr., Paris 193 1931 pp. 294-297. [Orth.]
- 2914.—Vecchi, A. Cinque generazioni di bachi da seta allevate con *Maclura aurantiaca* Nutt. Boll. Zool., Naples 1 1930 pp. 17-19. [Lep.]
- 2915.—Vergne, M. Note sur *Thyreoporus alpinus* Imhoff, Sphégide prédateur de Diptères. Bull. Soc. ent. Fr., Paris 1931 pp. 83-87, 2 figs. [Hym.]
- 2916.—Vergne, M. Sur la nidification de *Phylanthus triangulum* F. (Hym. Sphegidae). Bull. Soc. ent. Fr., Paris 1931 pp. 132-136, 2 figs.
- 2917.—Verhagen, L. Een schitterend arbeidsveld van de glanzend zwarte houtmier (*Lasius fuliginosus* Ltr.). Levende Natuur, Amsterdam 35 1931 pp. 316-321, 2 figs. [Hym.]
- 2918.—Verity, R. Distinzione, nomenclatura e nuove località italiane delle *Gegenes nostradamus* F. e *pumilio* Hoffm. Boll. Soc. ent. ital., Genoa 63 1931 pp. 106-112, 6 figs. [Lep.]
- 2919.—Verity, R. *Hidari thracimima*, n. sp., *U. comma* race *indicaferrata* nova et homonymy de *H. serratulae* race *occidentalis* Lucas (Lep.). Bull. Soc. ent. Fr., Paris 1931 pp. 198-201.
- 2920.—Verity, R. Classification of the geographical variations of *Melitaea diamina*, Land. (= *dictynna*, Esp.). Ent. Rec., London 43 1931 pp. 66-70, 80-81.
- 2921.—Verity, R. The specific names and the geographical variations of *Melitaea parthenoides*, Kef. (= *parthenie*, auct. nec Borkh.) and of *parthenie*, Borkh. (= *aurelia*, Nickerl.). Ent. Rec., London 43 1931 pp. 100-105, 136-140, 151-155, 186-189.
- 2922.—Verity, R. On the geographical variations and the evolution of *Lycaeides argus* L. (Lycaenidae). Iris, Dresden 45 1931 pp. 30-69.
- 2923.—Verlaine, L. Psychologie de la guêpe cartonnère (*Chartergus charterginus* Sauss.). Miss. biol. Belge Brésil (Aug. 1922-May 1923), Brussels 2 1930 pp. 259-261, 1 pl. [Hym.]
- 2924.—Verlaine, L. L'instinct et l'intelligence chez les Hyménoptères. XII. Mém. Soc. ent. Belg., Brussels 23 1931 pp. 191-222.
- 2925.—Verlaine, L. L'instinct et l'intelligence chez les Hyménoptères. XIII. Bull. Ann. Soc. ent. Belg., Brussels 71 1931 pp. 123-130.
- 2926.—Viaud, G. Note sur la structure, la physiologie, et l'acuité visuelle de l'oeil composé de l'abeille ouvrière. C.R. Soc. Biol., Paris 108 1931 pp. 47-50, 1 fig. [Hym.]
- 2927.—Viaud, G. & Dodin, L. La vision chez l'insecte. La Nature, Paris 1931 pp. 531-536, 10 figs.
- 2928.—Vignon, P. Recherches sur les sauterelles-feuilles de l'Amérique tropicale. Arch. Mus. Paris (6) 5 1930 pp. 57-214, 25 pls. 95 figs. [Orth.]
- 2929.—Vignon, P. Le camouflage animal. La Nature, Paris 1931 no 2860 pp. 1-5, 15 figs.
- 2930.—Villeneuve, J. Sur deux Myodaires supérieurs recueillis dans l'archipel de la Sonde. Arch. Hydrobiol., Stuttgart Suppl. 8 1931 pp. 688-690.
- 2931.—Villeneuve, J. Propos diptérologiques (suite). Bull. Ann. Soc. ent. Belg., Brussels 71 1931 pp. 35-38.
- 2932.—Villeneuve, J. Aperçus critiques sur le mémoire de P. Stein: "Die verbreitetsten Tachiniden Mitteleuropas." Konowia, Vienna 10 1931 pp. 47-74. [Dipt.]
- 2933.—Vimmer, A. O vzniku a vývoji systému Dipter. [In Czech.] Věda Přírodní, Prague 8 1927 pp. 39-44.
- 2934.—Vimmer, A. Die Dipterohyponomien aus der Umgebung von Stadt Pisek in Böhmen (Czechoslovakia). [In Czech with German summary.] Acta Soc. ent. Čech., Prague 27 1930 pp. 54-66, 21 figs.
- 2935.—Vimmer, A. A few notes on the anatomy and physiology of the larvae of Diptera. [In Czech.] Acta Soc. ent. Čech., Prague 27 1930 pp. 79-92, 22 figs.
- 2936.—Vimmer, A. New flies for Czechoslovakia. [In Czech.] Acta Soc. ent. Čech., Prague 27 1930 p. 92. [Dipt.]
- Vinciguerra, D. see Gestro & Vinciguerra.

2937.—Vogel, B. Ueber die Beziehungen zwischen Süßgeschmack und Nährwert von Zuckern und Zuckeralkoholen bei der Honigbiene. Z. vergl. Physiol., Berlin **14** 1931 pp. 273–347, 44 figs. [Hym.]

2938.—Vogel, G. *Lophyrus fuscipennis* Forsius auch in Deutschland in beiden Geschlechtern (Hym. Tenthred.). Mitt. deuts. ent. Ges., Berlin **2** 1931 pp. 7–9.

2939.—Vogel, R. Beobachtungen über blutsaugende Zweiflügler im Kanton Tessin. Zool. Anz., Leipzig **93** 1931 pp. 1–2. [Dipt.]

2940.—Vorbrott, C. Tessiner und Misoxer Schmetterlinge (contd.). Mitt. schweiz. ent. Ges., Berne **14** pp. 265–328 (1930) pp. 329–393 (1931) 2 pls.

2941.—Vorbrott, C. Tessiner und Misoxer Schmetterlinge. II. Microlepidoptera. Iris, Dresden **45** 1931 pp. 91–140.

2942.—Voss, E. Einige weitere Attelabiden und eine neue *Camorotus*-Art, Rhynchitinae. Sbornik ent. odd. Nár. Mus. Praha **8** 1930 pp. 60–66. [Col.]

2943.—Voss, E. Einiger unbeschriebene Curculioniden aus China. Ent. Bl., Berlin **27** 1931 pp. 35–38.

2944.—Voss, E. Monographie der Rhynchitinen-Tribus Rhinomacerini und Rhinorhynchini. II. Teil der Monographie der Rhynchitinae-Pterocolinae. Ent. Bl., Berlin **27** 1931 pp. 162–167. [Col.]

2945.—Voss, E. Monographie der Rhynchitinen - Tribus Bytiscini (contd.). Koleopt. Rdsch., Vienna **16** (1930) 1931 pp. 209–243, 9 figs.

2946.—Voss, E. Drei unbeschriebene Attelabiden der paläarktischen Region (Col. Curc.). Koleopt. Rdsch., Vienna **17** 1931 pp. 192–194.

2947.—Voss, E. Zwei neue *Apio-morphus*-Arten (Col. Curc.). Mitt. deuts. ent. Ges., Berlin **2** 1931 pp. 2–4.

Voss, E. see Dalla Torre & Voss.

2948.—Voukassovitch, H. & P. Sur la mortalité de la cochenille *Lecanium corni* L. C.R. Soc. Biol., Paris **106** 1931 pp. 691–694. [Hem.]

2949.—Voukassovitch, H. & P. Sur la ponte des Hyménoptères parasites entomophages. C.R. Soc. Biol., Paris **106** 1931 pp. 695–697.

2950.—Voukassovitch, H. & P. Sur la lutte pour la possession de l'hôte chez les larves d'ectoparasites solitaires. C.R. Soc. Biol., Paris **106** 1931 pp. 697–700. [Hym.]

2951.—Vretlind, E. & Nordström, F. Förödande inverkan på fjärilslivet i Lappland av den kalla sommaren 1928. Ent. Tidskr., Stockholm **51** 1930 pp. 80–82. [Lep.]

2952.—Wadley, F. M. Ecology of *Toxoptera graminum*, especially as to factors affecting importance in the northern United States. Ann. Ent. Soc. Amer., Columbus **24** 1931 pp. 325–395, 22 figs. [Hem.]

2953.—Wagner, A. C. W. Einige Bemerkungen über *Cemonus* Jur. (*Diphlebus* Westw.) (Hym. Sphec.). Mitt. deuts. ent. Ges., Berlin **2** 1931 p. 38.

2954.—Wagner, C. Lepidopterologische Sammeltage im Gadmental (Berne Oberland). Ent. Z., Frankfurt a. M. **44** 1931 pp. 320–323.

2955.—Wagner, F. Dritter (iv) Beitrag zur Lepidopteren-Fauna Inner-Anatoliens. Int. ent. Z., Guben **24** 1931 pp. 467–485, 487–493, 1 pl.

2956.—Wagner, F. Neue Heterocera aus Kleinasien. Int. ent. Z., Guben **25** 1931 pp. 367–371. [Lep.]

2957.—Wagner, H. Frühlingssammeltage auf Corsica. Coleopt. Centralbl., Berlin **4** 1929 pp. 152–164; **5** 1930 pp. 30–40; **5** 1931 pp. 149–152.

2958.—Wagner, J. Nachträge zum Kataloge der palaearktischen Aphanipteren (Wien 1930). Konowia, Vienna **10** 1931 pp. 96–100. [Siphonapt.]

2959.—Wajda, S. Recherches cytologiques sur la sécrétion des glandes séricigènes des larves des Trichoptères. C.R. Acad. Cracow no. **2** 1931 p. 15.

Wakamori, N. see Terao & Wakamori.

2960.—Walker, E. M. On the anatomy of *Grylloblatta campodeiformis* Walker. Ann. Ent. Soc. Amer., Columbus **24** 1931 pp. 519–536, 4 pls. [Orth.]

2961.—Walker, E. M. On the clypeus and labium of primitive insects. Canad. Ent., Orillia **63** 1931 pp. 75–81, 1 pl.

2962.—Walker, J. J. Insects at sea. Ent. Mon. Mag., London **67** 1931 pp. 211–232, 254–268.

2963.—Walker, J. J. Notes on a Satyrine butterfly (*Satyrus azorinus*, Strecker) from the Azores. Proc. Ent. Soc. London 5 1931 pp. 77–81, 1 pl. [Lep.]

2964.—Wall, R. E. *Dissolcus tetartus* Crawford, a Scelionid egg parasite of Plataspidinae in China. Lingnan Sci. J., Canton 9 1931 pp. 381–382, 1 pl. [Hym.]

2965.—Walley, G. S. New Canadian species of *Arenetra* (Hymen., Ichneumonidae). Canad. Ent., Orillia 63 1931 pp. 168–171.

2966.—Walley, G. S. Corixidae from the environs of Hudson Bay (Hemip., Corixidae). Canad. Ent., Orillia 63 1931 pp. 238–239, 5 figs.

2967.—Walsh, G. B. Studies in the British necrophagous Coleoptera. Ent. Mon. Mag., London 67 1931 pp. 76–81, 1 fig.

2968.—Walsh, G. B. More records of Yorkshire Coleoptera. Naturalist, London 1931 pp. 282–284.

2969.—Walsh, G. B. The preparation of Aphids for the microscope. Vasculum, Newcastle-on-Tyne 17 1931 pp. 11–12.

2970.—Warasi, W. Zur Biologie der *Anopheles*larven. (*Anopheles maculipennis* Mg. in Verbindung mit den Wasserfaktoren des Anophelismus in Kalchis.) Arch. Schiffs- u. Tropenhyg., Leipzig 35 1931 pp. 336–345. [Dipt.]

2971.—Warnecke, G. Ein weiterer Beitrag zur Makrolepidopterenfauna der nordfriesischen Inseln. Ent. Anz., Vienna 11 1931 pp. 271–274, 307–310, 350–353, 385–388, 432–434.

2972.—Warnecke, G. Einige Bemerkungen über die drei im Niederelbgebiet vorkommenden Arten des *Oporinia dilutata-autumnata*-Formenkreises (Lep. Geom.). Int. ent. Z., Guben 25 1931 pp. 9–14, 2 pls. 3 figs.

2973.—Warnecke, G. Der nordliche Verbreitungskreis der *Selidosema ericetaria* Vill. (*plumaria* Schiff.). (Lepid. Geom.). Int. ent. Z., Guben 25 1931 pp. 217–222.

2974.—Warnecke, G. Einige kritische Bemerkungen über die Frage der Verwendbarkeit meteorologischer Klimamessungen für zoogeographische Untersuchung. Int. ent. Z., Guben 25 1931 pp. 302–306.

2975.—Warnecke, G. Zur Verbreitung von *Valeria oleagina* F. (Lep. Noct.) in Mitteleuropa, insbesondere in Pommern. Stettin. ent. Ztg. 92 1931 pp. 259–265, 1 map.

2976.—Warnecke, G. I. *Miana captiuncula* Tr. (Lepid. Noct.) ist kein Glazialrelikt. II. *Miana captiuncula* in Schleswig-Holstein. Z. öst. EntVer., Vienna 16 1931 pp. 2–6, 1 map.

2977.—Warnecke, G. et al. Zur diesjährigen Frühjahrseinzug von *Pyrameis cardui* L. in Mitteleuropa. Int. ent. Z., Guben 25 1931 pp. 133–137. [Lep.]

2978.—Warnke, G. Experimentelle Untersuchungen über den Geruchssinn von *Geotrupes silvaticus* Panz. und *Geotrupes vernalis* Lin. Zugleich ein Beitrag zur Problem der Orientierung der Tiere im Raum. Z. vergl. Physiol., Berlin 14 1931 pp. 121–199, 47 figs. [Col.]

2979.—Warren, B. C. S. The generic names used in the Neuere Beiträge. Ent. Rec., London 43 1931 pp. 30–31.

2980.—Warren, B. C. S. Stray notes on Erebiid species. Ent. Rec., London 43 1931 pp. 49–53, 97–100, 167–172. [Lep.]

2981.—Warren, B. C. S. *Papilio atratus* Esp. and *Satyrus stirius* Godt. Entomologist, London 64 1931 pp. 202–205. [Lep.]

2982.—Wasmann, E. Die Ameisenmimikry. Ein exakter Beitrag zum Mimikryproblem und zur Theorie der Anpassung. Abh. theoret. Biol., Berlin 19 1925 xii + 164 pp. 3 pls. [Hym.] [Cf. Z.R., lxii, 1925, no. 3110.]

2983.—Wasmann, E. Die Demokratie in den Staaten der Ameisen und der Termiten. Forsch. Völkerpsych. Soziol., Leipzig 10 1931 pp. 309–336.

2984.—Wassilieff, A. Les rongeurs et puces de la Tunisie et leur rôle dans la propagation de la peste. Arch. Inst. Pasteur Tunis 20 1931 pp. 59–65. [Siphonapt.]

2985.—Watanabe, C. Notes on Braconidae of Japan. I. Helconini. Insecta matsum., Sapporo 6 1931 pp. 22–31, 3 figs. [Hym.]

2986.—Waterhouse, G. A. Butterflies and Ants. Aust. Mus. Mag., Sydney 4 1931 pp. 219–221' 1 pl. 2 figs.

2987.—Watson, J. R. Two new Thysanoptera from Colorado. Florida Ent., Gainesville 15 1931 pp. 51–54.

Watson, S. A. *see* Bliss, Broadbent & Watson.

2988.—Wattison, J. T. [Lepidopteros de Portugal, contd.] Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 29 1930 pp. 39–100, 68 figs.

2989.—Webber, R. T. A new parasitic fly of the genus *Chaetophlepsis*. Proc. U.S. Nat. Mus., Washington, D.C. 78 art. 20 no. 2863 1931 4 pp. [Dipt.]

2990.—Weber, H. Zur vergleichenden Physiologie der Saugorgane der Hemipteren. Mit besonderer Berücksichtigung der Pflanzenläuse. Z. vergl. Physiol., Berlin 8 1928 pp. 145–186, 14 figs.

2991.—Weber, H. Homoptera. Pflanzensauger. Cicadina—Zikaden. Biologie des Tiere Deutschlands, Berlin Teil 31 1931 pp. 71–208, 112 figs.

2992.—Weber, H. Erwiderung auf H. Haupts kritische Besprechung von H. Weber, Biologie der Hemipteren in Mitt. D. Ent. Ges. I, p. 105. Mitt. deuts. ent. Ges., Berlin 2 1931 pp. 136–143.

2993.—Weber, H. Lebensweise und Umweltbeziehungen von *Trialeurodes vaporariorum* (Westwood). (Homoptera-Aleurodina.) Erster Beitrag zu einer Monographie dieser Art. Z. Morph. Oekol. Tiere, Berlin 23 1931 pp. 575–753, 59 figs. [Hem.]

2994.—Weber, H. Die Lebensgeschichte von *Ectoposocus parvulus* (Kolbe 1882). Ein Beitrag zur Kenntnis der einheimischen Copeognathen. Z. wiss. Zool., Leipzig 138 1931 pp. 457–486, 18 figs. [Psocopt.]

2995.—Wehrli, E. Beitrag zur Geometriden-Fauna von Minussinsk Sibirien, Gouv. Jenissej. Jahrb. Martj. Staatsmus. Minussinsk 6 (1928) 1929 pp. 8–30. [Lep.]

2996.—Wehrli, E. Eine neue Gattung der Geometrinae der paläarktischen Fauna (Lepid. Het.). Ent. Rdsch., Stuttgart 48 1931 pp. 15–16, 25, 41–42.

2997.—Wehrli, E. Neue Geometriden aus meiner Sammlung. (Lep. Het.) Ent. Z., Frankfurt a. M. 45 1931 pp. 102–104, 111–114.

2998.—Wehrli, E. Ueber einige nordafrikanische Geometriden (Lepid. Heterocera). Int. ent. Z., Guben 24 1931 pp. 425–431, 438–444, 2 pls.

2999.—Wehrli, E. Neue paläarktische und indische *Abraxas*-Arten und eine neue chinesische *Cidaria* (Lep. Heteroc.). Mitt. deuts. ent. Ges., Berlin 2 1931 pp. 97–108.

3000.—Wehrli, E. Einige neue paläarktische Geometriden aus Syrien, Algerien und Sicilien (Lepid. Het.). Mitt. münchn. ent. Ges. 21 1931 pp. 41–46.

3001.—Wehrli, E. Neue Geometriden aus West-China (Lep., Het.). Mitt. schweiz. ent. Ges., Bern 15 1931 pp. 52–54.

3002.—Wehrli, E. Neue Geometriden-Arten und Rassen aus China und Tibet. N. Beitr. syst. Insektenk., Berlin 5 1931 pp. 17–31. [Lep.]

3003.—Weis, I. Versuche über die Geschmacksrezeption durch die Tarsen des Admirals, *Pyrameis atalanta* L. Z. vergl. Physiol., Berlin 12 1930 pp. 206–248, 2 figs.

3004.—Weise, J. Chrysomelidae: 13. Galerucinae. Coleopt. Catalogus, Berlin 78 1924 225 pp.

3005.—Weiss, H. B. John Southall's "Treatise of Bugs." J. New York Ent. Soc. 39 1931 pp. 253–258, 2 pls.

3006.—Weld, L. H. Additional notes on types with description of a new genus (Hymenoptera: Cynipidae). Proc. Ent. Soc. Washington 33 1931 pp. 220–227, 1 fig.

3007.—Wendeler, H. Eine Reihe neuer *Paederus*-Arten aus verschiedenen exotischen Faunengebieten (Col. Staph.). Deuts. ent. Z., Berlin 1931 pp. 37–48.

3007a.—Werder, A. O. Beitrag zur Kenntnis der Aphiden-Fauna von Basel und Umgebung. Verh. naturf. Ges. Basel 42 (1930–1931) 1932 pp. 1–98, 34 figs. [Hem.]

3008.—Werneck, F. L. Nota prévia sobre uma nova especie de Mallophaga (Gyropidae). Bol. biol., Rio de Janeiro fasc. 18 1931 pp. 21–22, 1 pl.

3009.—Werner, F. Zur Kenntnis der Fauna des Lesachtales. (iii. Teil und Schluss.) Carinthia II, Klagenfurt 37–38 1928 pp. 41–49.

3010.—Werner, F. Die Fauna der Heidevegetation der Umgebung von Feldkirchen. Carinthia II, Klagenfurt 39-40 1930 pp. 43-47.

3011.—Werner, F. Further notes on Indian Mantids or praying insects. Proc. Zool. Soc. London 1931 pp. 1329-1334, 1 pl. [Orth.]

3012.—Werner, H. Schützt den Apollo! Veröffent. Staat. Stelle Naturschutz, Stuttgart 3 1926 pp. 134-144, 1 fig. [Lep.]

3013.—Werner, W. H. R. Observations on the life-history and control of the fern scale, *Hemichionaspis aspidistrae* Sign. Pap. Michigan Acad. Sci., Ann Arbor 13 1931 pp. 517-541, 3 pls. [Hem.]

3014.—West, R. J. Descriptions of new species of Japanese, Formosan and Philippine Pyralidae. Novit. zool., Tring 36 1931 pp. 206-219. [Lep.]

3015.—West, R. M. A plea for the study of Coleoptera. Proc. I. of Wight Nat. Hist. Soc. 2 1930 pp. 69-70.

3016.—Weyer, F. Das Problem der Kastendifferenzierung bei den Termiten. Biol. Zbl., Leipzig 51 1931 pp. 353-373, 3 figs. [Isopt.]

3017.—Weyrauch, W. K. Sinnesphysiologische Studie an der Imago von *Forficula auricularia* L. auf ökologischer Grundlage. Z. vergl. Physiol., Berlin 10 1929 pp. 665-667, 4 figs. [Dermapt.]

3018.—Whedon, A. D. The comparative morphology and possible adaptations of the abdomen in the Odonata. Trans. Amer. Ent. Soc., Philadelphia 44 1918 pp. 373-437, 9 pls.

3019.—Wheeler, G. Notes from the French Alps at Haute Savoie, Isère and the Hautes Alpes. Ent. Rec., London 43 1931 pp. 1-5, 1 pl. [Lep.]

3020.—Wheeler, W. M. Demons of the dust. London, Kegan Paul, Trench, Trubner & Co. [1931] xviii + 378 pp. 1 pl. 49 figs.

3021.—Wheeler, W. M. New and little known ants of the genera *Macromischa*, *Croesomyrmex* and *Antillamyrmex*. Bull. Mus. Comp. Zool. Harvard, Cambridge, Mass. 72 1931 pp. 1-34. [Hym.]

3022.—Wheeler, W. M. Concerning some ant gynandromorphs. Psyche, Boston 38 1931 pp. 80-85. [Hym.]

3023.—Wheeler, W. M. The ant *Camponotus* (*Myrmepomis*) *sericeiventris* Guérin and its mimic. Psyche, Boston 38 1931 pp. 86-98, 2 figs [Hym.]

3024.—Wheeler, W. M. Neotropical ants of the genus *Xenomyrmex* Forel. Rev. Ent., São Paulo 1 1931 pp. 129-139, 2 figs. [Hym.]

3025.—Whiting, A. R. Diploid males in *Habrobracon*. Proc. Pennsylvania Acad. Sci., Harrisburg 3 1929 pp. 28-29. [Hym.]

3026.—Whiting, A. R. & Bostian, C. H. The effects of X-radiation of larvae in *Habrobracon*. Genetics, Menasha 16 1931 pp. 659-680, 1 pl. [Hym.]

3027.—Whiting, P. W. Diploid male parts in gynandromorphs of *Habrobracon*. Biol. Bull., Woods Hole, Mass. 61 1931 pp. 478-480. [Hym.]

3028.—Whiting, P. W. & A. R. Genetic studies on the parasitic wasp, *Habrobracon juglandis* (Ashm.). Proc. Pennsylvania Acad. Sci., Harrisburg 4 1930 pp. 79-80. [Hym.]

3029.—Whiting, P. W. & Stancati, M. F. A gynandromorph of *Habrobracon* from a post-reduced binucleate egg. Biol. Bull., Woods Hole, Mass. 61 1931 pp. 481-484, 2 figs. [Hym.]

Whiting, P. W. see Gilmore & Whiting.

3030.—Whittaker, O. Notes on the Hymenoptera of British Columbia. No. 1. Family Bethyridae. Mus. Art Notes, Vancouver, B.C. 5 1930 pp. 127-130, 1 pl.

3031.—Whittaker, O. New and little-known Diapriidae from British Columbia (Hymenoptera). Proc. Ent. Soc. Washington 33 1931 pp. 176-182.

3032.—Whittaker, O. Four new species of Mymaridae from British Columbia (Hymenoptera). Proc. Ent. Soc. Washington 33 1931 pp. 189-192.

3033.—Wickham, H. F. Insects from the Miocene (Latah) of Washington. Coleoptera. Ann. Ent. Soc. Amer., Columbus 24 1931 pp. 317-318, 2 figs. [Fossil.]

3034.—Wiel, P. van der. Overzicht der in Nederland en aangrenzend gebied voorkomende soorten van het genus *Choleva* Latreille. Tijdschr. Ent., Amsterdam 74 1931 pp. 187-229, 124 figs. [Col.]

3035.—Wigglesworth, V. B. The respiration of insects. Biol. Rev., Cambridge 6 1931 pp. 181-220.

3036.—Wigglesworth, V. B. The physiology of excretion in a blood-sucking insect, *Rhodnius prolixus* (Hemiptera, Reduviidae). i-iii. J. Exp. Biol., Edinburgh 8 1931 pp. 411-451, 12 figs.

3037.—Wigglesworth, V. B. Effect of desiccation on the bed-bug (*Cimex lectularius*). Nature, London 127 1931 pp. 307-308, 2 figs.; Proc. Ent. Soc. London 6 1931 pp. 25-26. [Hem.]

3038.—Wigglesworth, V. B. Excretion of uric acid. Nature, London 128 1931 p. 116. [Hem.]

3039.—Wigglesworth, V. B. Digestion in *Chrysops silacea* Aust. (Diptera, Tabanidae). Parasitology, Cambridge 23 1931 pp. 73-76.

3040.—Wigglesworth, V. B. The extent of air in the tracheoles of some terrestrial insects. Proc. Roy. Soc., London 109 1931 pp. 354-369, 2 figs.

3041.—Wightman, A. J. Noctuae and their variation in 1930 and 1931. Ent. Rec., London 43 1931 pp. 105-110, 178-182. [Lep.]

3042.—Wild, O. H. Notes on the peculiarities of some Lepidoptera and Hymenoptera from the Inner and Outer Hebrides. Scot. Nat., Edinburgh no. 190 1931 pp. 113-119, 1 col. pl.

3043.—Wiles, I. A. & Chidester, F. E. The influence of adrenal cortex, anterior pituitary, and thyroid on the growth and maturity of the fruit-fly, *Drosophila*. Anat. Rec., Philadelphia 51 1931 suppl. pp. 42-43. [Dipt.]

3044.—Wilkinson, D. S. Braconidae: Notes and new species. Bull. Ent. Res., London 22 1931 pp. 75-82. [Hym.]

3045.—Wilkinson, D. S. Five new species of *Spathius* (Hym. Bracon.). Bull. Ent. Res., London 22 1931 pp. 259-265, 5 figs.

3046.—Wilkinson, D. S. Four new species of Ichneumonidae. Bull. Ent. Res., London 22 1931 pp. 393-397, 1 pl. [Hym.]

3047.—Wilkinson, D. S. On the Indo-Australian and Ethiopian species of the Braconid genus *Spathius* (Hymenoptera). Trans. Ent. Soc. London 79 1931 pp. 505-530, 1 pl. 15 figs.

3048.—Willemse, C. Orthoptera, subfam. Tetrigininae der Deutschen Limnologischen Sunda-Expedition. Arch. Hydrobiol., Stuttgart Suppl. 9 1931 pp. 43-46.

3049.—Willemse, C. Orthoptera (Acrididae) from Mangalum Island, North-west Borneo. Bull. Raffles Mus., Singapore 5 1931 p. 93, 1 pl.

3050.—Willemse, C. Description of a new species of *Bibracte* (Orth. Cyrtacanthacrinae) with key to the species. Ent. Anz., Vienna 11 1931 pp. 293-297, 9 figs.

3051.—Willemse, C. Beschreibung von einigen neuen Acridiidea von den Salomon-Inseln. (Subfam. Catantopinae, Orthoptera.) Int. ent. Z., Guben 25 1931 pp. 333-337, 345-350, 4 figs.

3052.—Willemse, C. A new species of *Aucacris* from Chile (Orthopt., Cyrtacanthacr.). Mitt. deuts. ent. Ges., Berlin 2 1931 pp. 22-24, 1 fig.

3053.—Willemse, C. Orthoptera neerlandica. Aanvullingen en verbeteringen IV. Natuurh. Maandbl., Maas-tricht 20 1931 pp. 79-80, 84-89, 97-98, 19 figs.

3054.—Willemse, C. Acrididae Celebicae. Treubia, Buitenzorg 12 suppl. 1931 pp. 189-270, 24 figs. [Orth.]

3055.—Williams, C. B. A migratory flight of the butterfly *Belenois mesentina* in East Africa in 1930. Proc. R. Phys. Soc., Edinburgh 22 1931 pp. 35-39, 1 map. [Lep.]

3056.—Williams, F. X. et al. Handbook of the insects and other invertebrates of Hawaiian sugar-cane fields. Expt. Sta. Hawaii. Sugar Planters' Assoc., Honolulu 1931 400 pp. 190 figs. 41 pls.

Williams, F. X. see Swezey & Williams.

3057.—Williams, jr., R. C. On some northern Lepidoptera Rhopalocera. Ent. News, Philadelphia 43 1931 p. 157.

3058.—Williams, jr., R. C. Two new Hesperids from Ecuador. Trans. Amer. Ent. Soc., Philadelphia 57 1931 pp. 288–290, 1 pl. 1 fig. [Lep.]

3059.—Williams, jr., R. C. Cuban Hesperidae (Lepidoptera). Trans. Amer. Ent. Soc., Philadelphia 57 1931 pp. 305–318, 1 pl. 14 figs. 1 chart.

3060.—Williams, jr., R. C. & Bell, E. L. Hesperidae of the Forbes expedition to Dutch and British Guiana (Lepidoptera). Trans. Amer. Ent. Soc., Philadelphia 57 1931 pp. 249–287, 34 figs.

Williams, R. S. *see* Lindsey, Bell & Williams.

3061.—Williams, S. H. Cerambycinae from Kartabo, Bartica District, British Guiana (Coleop.). Ent. News, Philadelphia 42 1931 pp. 222–226.

3062.—Williamson, E. B. Common names for dragonflies (Odonata). Ent. News, Philadelphia 42 1931 pp. 46–50.

3063.—Williamson, E. B. A new North American *Somatochlora* (Odonata—Cordulinae). Occ. Pprs. Mus. Zool. Univ. Michigan no. 225 1931 8 pp. 1 pl.

3064.—Willrich, U. Beiträge zur Kenntnis der Lichtkompassbewegung und des Farbensinnes der Insekten. Zool. Jahrb., Jena Allg. Zool., 49 1931 pp. 157–204, 25 figs.

3065.—Wimmers, C. Aus der Lepidopteren-Fauna Italiens (Apulien). Ent. Z., Frankfurt a. M. 45 1931 pp. 94–97.

Windred, G. L. *see* Krijgsman & Windred.

3066.—Winiwarter, H. de. Evolution de l'hétérochromosome chez *Tettigonia* (*Decticus*) *albifrons* (Fab.). Arch. Biol., Liège 42 1931 pp. 201–228, 1 pl. [Orth.]

3067.—Wnukowsky, W. Einige neue Angaben über der Insektenfauna des Bezirks Omsk (West-Sibirien). [In Russian.] Izv. W. Siberian Sect. Russ. Geogr. Soc., Omsk 7 1930 pp. 181–187.

3068.—Wnukowsky, W. Beiträge zur Kenntnis der Rhynchoten-Fauna des Bezirks Omsk. Mitt. deuts. ent. Ges., Berlin 2 1931 pp. 9–16. [Hem.]

Woitas, E. *see* Bethe & Woitas.

3069.—Wojtusiak, R. J. Weitere Untersuchungen über die Raumorientierung bei Kohlweisslingraupen. Bull. int. Acad. Cracovie 1930 1930 B pp. 629–655, 12 figs. [Lep.]

3070.—Wolcott, A. B. A new species of Cleridae from the Belgian Congo, with notes on a few others. Rev. Zool. Bot. afr., Brussels 20 1931 pp. 328–330. [Col.]

Wolf, E. *see* Hecht & Wolf.

3071.—Wolff, M. Eine Reise-apparatur für mikrophotographische Arbeiten. Ent. Jahrb., Leipzig 41 1932 [1931] pp. 63–68, 4 pls.

3072.—Wolff, M. Myrmekologische Marginalien. Jahrb. Ent., Leipzig 41 1932 [1931] pp. 147–151. [Hym.]

3073.—Wolfrum, P. Neue Anthribiden. Ent. Bl., Berlin 27 1931 pp. 70–76.

3074.—Wolsky, A. Optische Untersuchungen über die Bedeutung und Funktion der Insekten-Ocellen. Z. vergl. Physiol., Berlin 12 1930 pp. 783–787, 2 figs.

3075.—Wolsky, A. Weitere Beiträge zur Ocellenproblem. Die optische Verhältnisse der Ocellen der Honigbiene (*Apis mellifica* L.). Z. vergl. Physiol., Berlin 14 1931 pp. 385–391, 2 figs. [Hym.]

3076.—Wolsky, A. Der heutige Stand des Ocellenproblems, nebst weitere Beiträge zur Beurteilung der Frage. [In Hungarian with German translation.] Arb. Ung. biol. Forsch. Inst., Tihany 4 1931 pp. 222–248, 6 figs.

3077.—Womersley, H. A South African species of *Protura*. Ann. S. Afr. Mus., Cape Town 30 1931 pp. 89–91, 2 figs.

3078.—Womersley, H. Some Collembola of the family Sminthuridae from South Africa. Ann. S. Afr. Mus., Cape Town 30 1931 pp. 137–156, 6 pls.

3079.—Wong, Wai-Sing. On supplementing the mulberry diet of silkworms by the addition of protein. Lingnan Sci. J., Canton 10 1931 pp. 273–278. [Lep.]

3080.—Woodbury, L. A. A list of the Pentatomidae of Zion National Park, Utah. Pan-Pacific Ent., San Francisco 7 1931 pp. 124–125. [Hem.]

- 3081.—Worms, C. G. M. de. Moth-trap notes for 1930. *Entomologist*, London **64** 1931 pp. 147–149.
- 3082.—Wu, C. F. The nervous system of the white grub (the larva of *Osmoderma socialis* Horn). Parts I & II. *Lingnan Sci. J.*, Canton **7** (1929) [1931] pp. 651–694, 2 pls. [Col.]
- 3083.—Wu, Yi Fang. A contribution to the biology of *Simulium* (Diptera). Pap. Michigan Acad. Sci., Ann Arbor **13** 1931 pp. 543–599.
- 3084.—Wucherpfennig, F. Entomologische Amazonas-Fahrt. Rio Solimões nach São Paulo de Olivença. *Ent. Rdsch.*, Stuttgart **48** 1931 pp. 153–156, 167–169, 1 fig.
- 3085.—Wucherpfennig, F. Sammel-tage im Urwalde am Rio Madeira. *Int. ent. Z.*, Guben **25** 1931 pp. 100–105.
- 3086.—Wülker, G. Schlupfwespen und andere Insektenparasiten. *Int. ent. Z.*, Guben **25** 1931 pp. 14–16. [Hym.]
- 3087.—Wyss, H. Sexual differences and their significance in *Callosamia promethea* Drury. *Proc. Jun. Soc. Nat. Sci.*, Cincinnati **1** 1930 p. [50]. [Lep.]
- 3088.—Wyss, H. E. Observations and experimentations on emergence of some Saturnidae. *Proc. Jun. Soc. Nat. Sci.*, Cincinnati **2** 1931 pp. 4–6. [Lep.]
- 3089.—Yakhontov, V. V. The pseudopupa and the last larval instar of *Epicauta erythrocephala*, Pall. (Col. Meloidae). *Bull. Ent. Res.*, London **22** 1931 pp. 379–382, 4 figs.
- 3090.—Yagi, N. Phototropism of *Dixippus morosus*. *J. Gen. Physiol.*, Baltimore **11** 1928 pp. 297–300, 1 fig. [Orth.]
- 3091.—Yao Nan. Sur un fixateur cytologique particulièrement adapté aux tissus des insectes. *Bull. Histol. appl. Physiol. Path. Tech. microsc.*, Lyon **4** 1927 pp. 71–72.
- 3092.—Yasumatsu, K. Description of a new species of *Myrmosa* from Japan (Hym. Myrmosidae). *Trans. Sapporo Nat. Hist. Soc.* **11** 1931 pp. 221–226, 1 pl.
- 3093.—Yates, J. A. The butterflies of Coorg. *J. Bombay Nat. Hist. Soc.* 1931 **34** pp. 1003–1014; **35** pp. 104–114.
- 3094.—Yeager, J. F. Observations on crop and gizzard movements in the cockroach, *Periplaneta fuliginosa* (Serv.). *Ann. Ent. Soc. Amer.*, Columbus **24** 1931 pp. 739–745, 1 fig. [Orth.]
- 3095.—Yen, Chia-Hsien. A preliminary list of East China Aphididae. *Peking Nat. Hist. Bull.*, Peiping **6** 1931 pt. 2 pp. 61–70. [Hem.]
- Yi Fang Wu see Wu.
- 3096.—Yoshida, M. T. On the mouth-parts structure of adult and larva of *Potosia formosana*, Moser. [In Japanese, pl. legends in English.] *Trans. Nat. Hist. Soc. Formosa*, Taihoku **21** 1931 pp. 8–17, 2 pls. [Col.]
- 3097.—Yoshida, T. Classification of Formosan Prioninae (Col.: Cerambycidae). [In Japanese with English summary.] *Trans. Nat. Hist. Soc. Formosa*, Taihoku **21** 1931 pp. 266–279.
- 3098.—Yuasa, H. A new Anthribid feeding on the eggs of *Kermes*. [In Japanese.] *Oyo-Dobuts. Zasshi*, Tokyo **3** 1931 pp. 21–25, 1 fig. [Col.]
- 3099.—Zaéwilichowski, J. Sur l'innervation et les organes sensoriels des ailes chez les insectes. IIe partie. *C.R. Acad. Cracovie* 1931 no. 3 p. 10.
- 3100.—Zaitsev, D. W. Beiträge zur Cerambycidenfauna Volhyniens. [In Russian with German summary.] *Trav. Mus. zool. Kiev* no. **10** 1931 pp. 241–249. [Col.]
- Zakhvatkin see Jazykov.
- 3101.—Zalessky, M. Sur deux représentants nouveaux des paléohémipères du permien de la Kama et du Perebore dans le bassin de la Péchora. *Bull. Acad. Leningrad* 1930 pp. 1017–1027, 1 pl. 2 figs. [Fossil.]
- 3102.—Zavadsky, K. *Rhynchites sericeus* u. *aeneovirens*—Wasmanns biologische Fremdlinge. *Zool. Anz.*, Leipzig **93** 1931 pp. 102–108, 4 figs. [Col.]
- 3103.—Zernoff, V. Les bactériolysines chez les insectes. *Ann. Inst. Pasteur Paris* **46** 1931 pp. 565–571.
- Zernoff, V. see Toumanoff & Zernoff.
- 3104.—Zerny, H. Ergebnisse einer zoologischen Sammelreise nach Brasilien, insbesondere in das Amazonasgebiet, ausgeführt von Dr. H. Zerny. VII. Teil. *Lepidoptera III: Die Syntomiden des Staates Pará*. *Ann. naturh. Mus. Wien* **45** 1931 pp. 225–263.

3105.—Zerny, H. Beiträge zur Kenntnis der Syntomiden (contd.). Iris, Dresden 45 1931 pp. 1–27, 1 pl. [Lep.]

3106.—Zeuner, F. Ueber einige Käfer aus dem deutschen Keuper. Jahrb. preuss. geol. LdAnst., Berlin 51 1930 pp. 462–467, 1 pl. 1 fig. [Fossil Col.]

3107.—Zeuner, F. Die Insektenfauna des Böttinger Marmors. Fortschr. Geol. Paläont., Berlin 9 1931 pp. 247–406, 19 pls. 31 figs. [Fossil.]

3108.—Zeuner, F. Die Orthopterenfauna des Tessin (mit kritischen Bemerkungen zu H. Fruhstorfer, Die Orthopteren der Schweiz). Deuts. ent. Z., Berlin 1931 pp. 29–36.

3109.—Zeuner, F. Beiträge zur deutschen Orthopterenfauna. Mitt. deuts. ent. Ges., Berlin 2 1931 pp. 75–78.

3110.—Zeuner, F. Beiträge zur Systematik und Phylogenie der Decticeen (Orth. Tettigon.). Mitt. zool. Mus. Berlin 17 1931 pp. 424–435, 2 figs.

3111.—Zikán, J. F. Etwas über die sekundären Geschlechtscharaktere bei der Gattung *Thyridia* Hbn. (Lep. Dan.). Ent. Rdsch., Stuttgart 48 1931 p. 102.

3112.—Zimin, L. Revision des espèces paléarctiques du genre *Hystriomyia* Portsch. (Diptera). [In Russian with German description.] Annu. Mus. zool. Acad. Leningrad 32 1931 pp. 29–35, 1 pl.

3113.—Zimin, L. On the systematic position of *Servillia persica* Portsh. and new species of the genera *Cnephotachina* B.B. and *Goniomorphomyia* Zim. [In Russian, Latin descriptions.] Bull. Inst. Contr. Pests Dis., Leningrad 1 1931 pp. 171–179, 5 figs. [Dipt.]

3114.—Zimin, L. Some new data on the distribution of *Eremodromus noctivagus* Zim. and description of female of this species (Dipt., Asilidae). [In Russian.] Bull. Inst. Contr. Pests Dis., Leningrad 1 1931 pp. 181–183, 2 figs.

Zimmerman, S. K. see Rockwood & Zimmerman.

3115.—Zimmermann, A. Monographie der paläarktischen Dytisciden II. Hydporinae (2. Teil: Die Gattung *Hydporus* Clairv.). Koleopt. Rdsch., Vienna 17 1931 pp. 97–159.

3116.—Zimmermann, K. Wirkung von Selektion und Temperatur auf die Pigmentierung von *Epilachna chryso-melina* F. Naturwissenschaften, Berlin 19 1931 pp. 768–771, 2 figs. [Col.]

3117.—Zimmermann, K. Studien über individuelle und geographische Variabilität paläarktischer *Polistes* und verwandter Vespiden. Z. Morph. Oekol. Tiere, Berlin 22 1931 pp. 173–230, 1 pl. 28 figs. [Hym.]

3118.—Znojko, D. V. Carabidae, genus *Dyschirius* Bon. (Coleoptera). [In German with Russian summary.] Abh. Pamir Exped. 1928, Leningrad 2 1930 pp. 51–53.

3119.—Zolk, K. Zur Biologie des Meerrettichblattkäfers (*Phaedon cochleariae* Fbr.). [In Estonian with German summary.] Tartu Ulikooli Entom.-katsejaama teadaanded, Tartus no. 7 1928 15 pp. 8 figs. [Col.]

3120.—Zolk, K. Die Wintersaateule (*Agrotis segetum* Schiff.) und ihre Bekämpfung. [In Estonian with German summary.] Tartu Ulikooli Entom.-katsejaama teadaanded, Tartus no. 10 1930 49 pp. 19 figs. [Lep.]

3121.—Zorin, L. M. Contribution to the biology of *Ecapatte congelatella* Cl. [In Russian.] Plant Prot., Leningrad 7 1931 pp. 47–52, 7 figs. [Lep.]

3122.—Zorin, P. V. Sur la biologie du *Microgaster marginatus* Nees (Hymenoptera). [In Russian.] Rev. russe Ent., Leningrad 24 1930 pp. 220–224, 1 pl. 3 figs.

3123.—Zorin, P. V. Some features of reproduction and fertility of *Pteromalus puparum* L. [In Russian.] Plant Prot., Leningrad 7 1931 pp. 53–67, 4 figs. [Hym.]

3124.—Zukowsky, B. Kreuz und quer durch Frankreich bis in die Pyrenäen. Int. ent. Z., Guben 25 1931 pp. 284–288, 306–311, 313–317. [Lep.]

3125.—Zumpt, F. Die Koleopterenfauna des Steppenheidebiotops von Bellinchen und Oderberg (Fauna marchica). Eine oekologisch-geographische Studie. Beitr. Naturdenkmalpflege, Berlin 14 1931 pp. 361–449, 6 figs.

3126.—Zumpt, F. Curculioniden—Studien I. Ueber die Tanymecinen—Genera *Xylinophorus* Fst. und *Eutinopus* Fst. Coleopt. Centralbl., Berlin 5 1931 pp. 123–137, 3 figs. [Col.]

3127.—Zunker, M. Die Mallophagen der Haustiere, I, II. Arch. wiss. prakt. Tierhkl., Berlin 58 1928 pp. 644–660, 10 figs.; 61 1930 pp. 344–358, 11 figs.

3128.—[Zverezomb-Zubovskii, E. V. et al.] Зверезомб-Зубовский, E. B. The meadow moth in 1929–1930. [In Russian.] Kiev, Pub. Ukraine Sci. Inv. Inst. Sugar Ind. 1931 171 pp. many figs. [Lep.]

3129.—Zwaluwenburg, R. H. van. Elateridae from New Guinea and New Britain in the collections of the H.S.P.A. Experiment station. Proc. Hawaii. Ent. Soc. 1929–30, Honolulu 7 1931 pp. 427–435, 1 pl. [Col.]

3130.—Zwaluwenburg, R. H. van. Two new species of *Anchastus* (Elateridae) from Fiji and Hawaii. Proc. Hawaii. Ent. Soc. 1929–30, Honolulu 7 1931 pp. 489–490, 1 pl. [Col.]

3131.—Zweigelt, F. Blattlausgallen. Histogenetische und biologische Studien an *Tetraneura*- und *Schizoneura*-gallen. Die Blattlausgallen im Dienste prinzipieller Gallenforschung. Monog. angew. Ent., Berlin nr. 11 1931 xxi + 684 pp. 5 pls. 155 figs. [Hem.]

3132.—Zwölfer, W. Studien zur Oekologie und Epidemiologie der Insekten. i. Die Kieferneule, *Panolis flammea* Schiff. Z. angew. Ent., Berlin 17 1931 pp. 475–562, 2 figs. 24 diag. [Lep.]

II. SUBJECT INDEX.

N.B.—The full references may be obtained from "Titles" by means of the Author's name and number.

GENERAL.

Treatises.

CHAPMAN, Animal Ecology with especial reference to insects, 490; HOLLAND, The butterfly book, 1259; IMMS, Social behaviour in insects, 1302, Recent advances in entomology, 1303; MOSELY, The dry-fly fisherman's entomology, 1927; PATTON, Insects, ticks, mites and venomous animals of medical and veterinary importance.

Part II. Public Health, 2132; ROBINSON, Thermopile for temperature determinations, 2383; ROSTRUP & THOMSEN, Animal pests of field crops, 2404; SMITH, Textbook of agricultural entomology, 2624; VANDEL, La parthénogenèse, 2902; WHEELER, Demons of the dust [Myrmeleonidae, Rhagionidae], 3020; WILLIAMS et al., Handbook of insects and other invertebrates of Hawaiian sugar-cane field, 3056; ZWIGELT, Galls due to Aphids, 3131.

Historical.

ALFIERI, insects in the tomb of Tutankhamen, 37; BODENHEIMER, historical note on early records of parasitism by insects, 309; CATHERINE, insects in ancient religions, legend and history, 482; DEMATSON, *Gryllotalpa vulgaris* (Orth.) in ancient Greece, 662; ESSIG, history of Entomology, 815; OSBORN, early work and workers in Hemipterology, 2100; SWIFT, sacred beetles of Egypt, 2724; WEISS, John Southall's "Treatise of Bugs," 3005.

Bibliography.

The most important publications of H. Rebel up to 1931, Ann. naturh. Mus. Wien 45 pp. iv-v; Publications of J. Escher-Kündig, Mitt. schweiz. ent. Ges. 15 1930 pp. 3–4; ANDREWS, annotated list of systematic monographs and books in English on British Diptera, 73; [BORGMEIER], bibliography of Neotropical fauna since 1930, Rev. Ent., São Paulo 1 pp. 108–128, 234–256, 369–386, 484–510; BRAUN, works of Charles Dury, Ent. News 42 pp. 295–296; CRESSON, entomological literature, 596; DEAUTIER, publications of J. M. Petrocchi, Rev. Soc. ent. argent. 3 p. 273; ELTON, list of publications on animal ecology, 774; FLETCHER, list of publications on Indian entomology in 1929, 879; GESTRO, publications of G. Cavanna, Ann. Mus. Stor. nat. Genova 49 1922 pp. 202–207, publications of O. Beccari, Ann. Mus. Stor. nat. Genova 49 1922 pp. 280–297; GREIFENHAGEN, publications of W. Petersen to 1929, Beitr. Kunde Estlands, Reval 15 1929 pp. 26–28; GRIFFIN, bibliographical notes on various books, 1032, 1034–1039; GRIFFIN & SHERBORN, census of known copies of Thomas Martyn's "Psyche" 1797, 1040; HEMMING, dates of various publications on Lepidoptera, 1162, 1166, 1167, 1169;

HEPP, list of papers on biology of Coleoptera and Lepidoptera in Ent. Jahrb. vols. 1-40 (1892-1931), **1181**; HOFFMANN, revised list of works by C. W. Howard, Lingnan Sci. J. **10** 1931 pp. 335-337; HOTTES, the first papers dealing with Aphid fauna of America, **1281**; LARRIMER & WADE, publications of G. G. Ainslie, J. Econ. Ent., Geneva N.Y. **24** pp. 568-569; LEONARD, *Cosmopolites sordidus* (Curc.) bibliography, **1618**; LUIGIONI, publications of E. Wasmann, Atti Acc. Nuovi Lincei, Rome **84** pp. 493-508; NIEZABITOWSKI, publications of F. Schille, Polsk. Pismo ent. **10** pp. 86-88; PATEV, Bulgarian entomological literature published in 1929 and 1930, **2130**; ROSAS COSTA, literature on Argentine Orthoptera, **2398**; SHELJUZSKO, publications of L. K. Krulikovsky, Rev. russe Ent. **24** 1930 pp. 240-245; SPEISER, publications of A. Kuwert, Schr. phys.-oekon. Ges. Königsberg **67** 1930 pp. 91-94; STELLWAAG, works of K. Escherich 1888-1931, Z. angew. Ent. **18** pp. 434-439; STRAÑAK, publications of F. Rambousek, Ochrana Rostlin, Prague **11** 1931 pp. 147-150; SWEZEY & WILLIAMS, published works of F. A. G. Muir, Hawaiian Planters' Rec. **35** 1931 pp. 209-215; TULESCHKOW, publications of Dr. I. Buresch 1908-1930, Mitt. bulgar. ent. Ges. Sofia **6** pp. 164-178.

Taxonomy.

HATCH, status of Leng's classification of Coleoptera, **1115**; HAYES, characters used in classification of larvae, **1123**.

Nomenclature.

Common names of insects approved by American Association of Economic Entomologists, **3**; BLÜTHGEN, validity of the Erlanger List and of conditional descriptions, **304**; BORGMEIER, on the publication of manuscript names, **343**; HIGGINS, generic names used by Freyer in the "Neuere Beiträge," **1213**; DE JOANNIS, comments on the international rules of zoological nomenclature, **1347**; MONTE, popular names of Brazilian insects, **1910**; RAYMUNDO, popular names of Lepidoptera of the Federal District of Brazil, **2320**; RICHARDS, sub-sub-specific names in Lepidoptera, **2354**; DE SANDT, uniform names for similar types of aberrations, Lambillionea **31** pp. 159-162; TALBOT, naming of individual variants in

Lepidoptera, **2747**; WARREN, generic names used in the "Neuere Beiträge," **2979**.

Technique, Methods.

ADAMS, mounting insects, **8**; ALEXANDER, methods of breeding Tipulids (Dipt.), **33**; ANDREWES, trap for moths, **72**; ARNHART, simple travelling microphotographic apparatus, **91**; BAILEY, use of transparent cellulose films in life-history studies, **117**; BARBER, traps for cavernicolous insects, **151**; BARRAUD, transmission of living mosquitos and larvae through the post, **165**; BAUMGARTNER & PAYNE, "intra-vitam" method of observing cellular structures in grasshoppers, **184**; BECKING & CHAMBERLIN, formula for preparation of chitin, **195**; BEDFORD, methods adopted in the Sudan in organisation of insect collection and systematic compilation of records, **199**; BERRO, photomicrography of Coccidae, **256**; BERTRAND, capture and rearing of larvae of aquatic Coleoptera, **261**; CHRISTOPHERS, SINTON & COVELL, collection of larvae and adults of mosquitos, dissection, permanent preparations of larvae, **513**; CULOT, fixing butterflies on paper, **607**; DE MEILLON, preservation of mosquito larvae, **665**; DIETRICH, mounting Coleoptera, J. Econ. Ent. **24** pp. 874-877; DUSTAN, handy type of oviposition cage, **738**; ELTRINGHAM, improved air-pump for laboratory use, **775**; VAN EMDEN, capture and preservation of Carabid larvae, **778**; FOLSOM, simple apparatus for measuring chemotropisms, J. Econ. Ent. **24** pp. 827-833, 1 pl. 1 fig.; FRANSSEN, preparation of Termites, **905**; FULTON & CHAMBERLIN, new automatic insect trap, **934**; GEIGY, method of castrating *Drosophila*, **971**; GLENN, use of temperature accumulations as an index to phenology of insect pests, **992**; GLOVER, maintaining cultures of mosquito larvae through the winter, **993**; HARTZELL, use of ecotopographic maps in entomology, **1104**; HEIKERTINGER in MOLITOR, preparation of plaster of Paris ants' nests, **1907**; HILLE RIS LAMBERS, collection of Aphids, **1220**; HOPE, new type of insect habitat group for Museum exhibition, Bull. Wagner Free Inst. Sci. Philadelphia **6** pp. 3-6; HORN, collecting and preserving Cicinid larvae, **1275**; KAUDEKA, design for a beating umbrella, Int. ent. Z. **25**

pp. 61-62, 1 fig.; KONAKOV & ONISIMOVA, simple biocoenosis meter for counting insects in turf, 1500; LAIDLAW, artificial insemination of queen bees, 1576; LI, new food for laboratory cultures of *Drosophila*, 1634; LUCAS & STARK, development of ultra-violet microscope for sectioning living cells, 1665; MCGOVAN, method of measuring tracheal ventilation in insects, 1703; MARSHALL & STALEY, stereoscopic photomicrographs of fossils insects, 1774; MOLITOR, collection, breeding of beetles living in nests of ants and wasps, 1907; MUKERJI, lacto-chloral for rapid clearing and mounting of small insects, 1948; NICHOLSON, methods of photographing living insects, 2026; NIELSON, method of studying nests of solitary Hymenoptera, 2028; REZNICHENKO, determination of pH in small quantities of insect blood, 2351; ROWELL, how to mount skeletal structures of bees, *Science* 73 p. 320; SCHMUCK & METZ, method of studying chromosomes in entire insect eggs, 2497; SCOTT, method of marking insects in quantitative samples taken at regular intervals, 2532; SMITH, new type of insect cage, 2622; SMITH, study of temperature and humidity conditions in common types of insect cages, 2629; SNYDER, collection, breeding and preserving of termites, 2636; WALSH, preparation of Aphids for the microscope, 2969; WOLFF, portable photographic apparatus for travellers, 3071; YAO NAN, formula for fixing chondriome of insects, 3091.

Collections.

C. F. Adams' collection of Diptera presented to Purdue Univ., *Ent. News* 42 p. 25; AUSTEN, present state of British Museum national collection of insects, 109; KERSHAW, collections in the National Museum (Australia), *Vict. Nat.*, Melbourne 48 pp. 11-12; SÁMAL, Klapálek's collection of Ephemeroptera in Nat. Mus. Prague, 2451; STAIG, Fabrician types of Coleoptera in the Hunterian Collection, Glasgow Univ., 2662.

Miscellaneous.

BALFOUR-BROWNE, a plea for uniformity in the method of recording insect captures, 129; MARTINI, discussion of various terms used in the study of the abundance of insects, 1786; WERNER, *Parnassius apollo* (Lep.), necessity for protection, 3012.

MORPHOLOGY.

General Anatomy.

ALFONSUS & BRAUN, *Braulta coeca*, internal structures, 45; ANDERSEN, *Sitona lineata* (Curc.), 63; BENICK, *Prionocyphon serricornis*, *Microcara testacea* (Col. Helod.), 226; BREMER & KAUFMANN, *Pegomyia hyoscyami* (Dipt. Anthom.), 374; BUGNION, *Luciola lusitanica* (Lampyrid.), 426; CALVERT, *Palaemnema* (Odon.), 454; COMPERE, *Coccophagus* (Hym. Euloph.), 563; CORSET, coaptations (reciprocal adjustment of independent parts) in insects, 576; CROS, *Meloë* spp. (Col.), 601; VAN EMDEN, *Cephalonomia quadridentata* (Hym. Bethyl.), 784; FERRIS, *Haematomyzus elephantis* (Anopl.), 856; FUERBORN, *Telmatoctopus similis, ustulatus* (Dipt. Psych.), 858; FEYTAUD, *Leptinotarsa decemlineata* (Chrysom.), 859; DE FLUITER, *Eriosoma lanigerum* (Aphid.), 890; v. GEBHARDT, Buprestidae (Col.), 966; HAMILTON, *Nepa cinerea* (Hem.), 1077; HSÜ, *Gryllus mitratus* (Orth.), 1284; ISSIKI, Micropterygidae (Lep.), 1315; LARSÉN, *Notonecta glauca, lutea, maculata, furcata* (Hem.), 1586; MORSE, *Chrysopa perla* (Neuropt.), 1925; PARKER, *Macrocentrus gifuensis* (Hym. Brac.), 2124; RAMME, Schizodactylinae (Orth. Gryll.), 2303; RICHMOND, *Hydrophilus obtusatus* (Col.), 2363; SCHEDL, *Gnathotrichus* spp. (Col. Scolytid.), 2476; SCHEDL, *Ellopia fuscicollis* (Lep. Geom.), 2477; TEISSIER, general morphology in insect growth, 2767; THOMAS, *Sciara nitidicollis* (Dipt.), 2800; THORPE, *Cryptochaetum iceryae* (Dipt. Agromyz.), 2806; TUXEN, Protura, 2855.

Exoskeleton.

SEYFRIED, *Chrysetaerius iheringi* (Col. Hist.), 2560; VAN-DER-FLASS, larval skin of *Antheraea pernyi* (Lep.), 2904.

Head.

TAYLOR, Tenthredinidae (Hym.), 2761; WALKER, *Grylloblatta campodeiformis* (Orth.), 2960.

Eyes.

ELTRINGHAM, *Aleurodes brassicae* (Hem.), compound eye, 776; FRIEDRICH, organs of sight in Cicindelidae (Col.), 913; FRIZA, eye colour in Tabanidae and Orthoptera, 920; HERTZ, bees, 1193; NOWIKOFF, structure of

rhabdoms in insect eyes, 2051, eyes of Lepidoptera, 2052; VIAUD, eye of worker bee, 2926; VIAUD & DODIN, 2927; WOLSKY, ocelli, 3074-3076.

Antennae.

PINTO, value of antennae as a basis for classification of Triatomidae (Hem.), 2213; PRIESNER, *Aptinotrips* (Thysanop.), fusion of terminal joints of antennae, 2263.

Mouth-parts.

BADONNEL, *Scoliopsyllopsis latreillei* (Psocopt.), 115; CHINA, parallelism in structure of labium in *Coptosomoides* and *Bozius* (Hem. Pent.), 496; GÖTZE, variation in length of proboscis in honey-bee, 1012; METCALF, general, 1853; MUIR, criticism of Hansen's theory of the maxillula in Hemiptera, 1943; MUKERJI, *Culicoides* (Dipt.), 1947, 1950; MURTI, suctorial apparatus of *Platypleura octoguttata* (Hem. Cicad.), 1973; NITZULESCU, rôle of mandibles in proboscis of blood-sucking insects, 2033; PINTO, value of rostrum as basis for classification of Triatomidae, 2213; WALKER, clypeus and labium of primitive insects, 2961; YOSHIDA, *Potosia formosana* (Col. Ceton.), mouth-parts of adult and larva, 3096.

Thorax.

CRAMPTON, phylogenetic study of metathorax, 592; DRABATY, *Apis mellifica*, postembryonic development of thoracic appendages, 711; ŠULC, osmeterium of Staphylinidae (Col.), 2711.

Wings.

BRADLEY, guide to study of wings of insects, 363, 364; DIXEY, development of wings in Lepidoptera, 684; HAUPT, derivation and naming of venation of Aculeata Hymenoptera, 1119; HERING, *Oxyplax ochracea* (Lep. Limac.), duplication of fore-wing, 1186; IMMS, recent research on wing venation, 1304; KARNY, wing venation in Gryllacridae (Orth.), 1408; LESTAGE, Ephemeroptera, 1627; MARAN, Cerambycidae (Col.), 1748; NEWTON, campaniform sensillae at wing-bases in *Apis*, 2020; TEODOBO, wing-coupling apparatus in Hemiptera, 2773; TILLYARD, venational nomenclature of Perlaria, 2808; venation of Mastotermitidae, 2809; ZAĆWILICHOWSKI, venation and sense organs in wings of insects, 3099.

Abdomen.

CRAMPTON, phylogenetic study of basal abdominal structures, 592, *Notiothauma reedi* (Fossil, Mecopt.), male genitalia, 593; ELTRINGHAM, peculiar abdominal structures in *Diplectrona felix* (Trichopt.), 777; IONESCO, teeth on 8th tergite in Protura, 1309; NOLL, *Halictus* spp. (Hym.), 2043; SIEPMANN, *Glischrochilus fasicatus*, *quadrisignatus* (Nitidul.), genitalia, 2585; SNODGRASS, abdomen and its appendages in insects, 2633; WHEDON, external and internal anatomy of abdomen in Odonata, 3018.

Sense Organs.

HERTWECK, *Drosophila melanogaster* (Dipt.), 1191; MCINDOO, sense organs of Coleoptera, 1706; NEWTON, sensillae at wing-bases in *Apis*, 2020; RÜHLE, organs of smell in Lepidoptera, 2429; ZAĆWILICHOWSKI, sense-organs in wings of insects, 3099.

Alimentary System.

ARAKAWA, *Pediculus humanus*, blood-sucking and digestion, 83; BIGHAM, *Asaphes memnonius* (Col. Elat.), 272; DAVIDSON, *Crioceris asparagi* (Col.), 642; DOBROSKY, *Cicadula sexnotata* (Hem. Jass.), 687; GEBHARDT, alimentary canal of Buprestidae, 967; GRAY, *Homaledra sabalella*, postembryonic development of digestive system, 1022; GREEN, *Vespa vulgaris*, 1025; HOBSON, *Lucilia sericata* (Dipt.), digestive tract of larva, 1235; KAWAGUCHI, *Bombyx mori*, dimorphism of epithelial cells of mid intestine, 1421; MIKHIN, *Bombyx mori*, structure of fore part of intestinal tract, 1879; MONTALENTI, origin and function of peritrophic membrane, 1909; PICKLES, metamorphosis of alimentary canal in Ephemeroptera, 2202; SAINT-HILAIRE, *Lophyrus* spp. (Hym. Tenth.), appendage of anterior intestine in larvae, 2440; SCHAEFER, *Sphaeoderus nitidicollis* (Col.), 2470; WHEDON, Odonata, 3018.

Respiratory System.

MARCU, tracheae in insects, 1759; MUKERJI, *Cybister* sp. larva (Col. Dytisc.), 1946; RIPPER, homologues of tracheal system, 2371; WIGGLESWORTH, Insecta, 3035.

Reproductive System.

BAKER, male genitalia of Canadian Pentatomidae (Hem.), 119; BECKER,

homology in external genitalia in male and female Hymenoptera, 192; BORDAS, ovaries of Hymenoptera, 335; BRYK, structure conducing to monogamy in female Lepidoptera, 414; BUGNION, copulatory apparatus in male Longicorns (Col. Ceramb.), 425; DU BOIS, development of copulatory apparatus of intersexed ♀ of *Lymantria dispar* (Lep.), 727; ELTRINGHAM, male structures in *Agapetus* (Trichopt.), 777; GEIGY, *Drosophila melanogaster* (Dipt.), 971; HAGAN, *Hesperoctenes fumarius* (Hem. Polyceten.), 1070; HANSEN, *Staphylinus* (Col.), pairing organs, 1082; HEBERDEY, female genital ducts in insects, 1139; HEYDEMANN, *Hydroecia nictitans* group (Lep. Noct.), ♂ genitalia, 1200; JACOBS, *Atheta* spp. (Col. Staph.), lengthened 6th ventral segment in male, 1319; KERKIS, *Eurygaster integriceps* (Hem. Pentat.), variation in genitalia, 1432; LEVTSUK, genitalia of Elateridae, 1633; LYSAGHT, *Caedicia simplex* (Orth.), spermatophores, 1693; MILLER, Cocklebur Aphid (Hem. Aphid.), 1884; NATORI, *Podisma sapporoense* (Orth.), ovo-testis found in larva, 1987; NOLL, *Halictus* spp. (Hym. Apid.), copulatory organs 2043; PAOLI, *Empoasca* spp. (Hem. Jass.), male genitalia, 2111; PINTO, *Stomoxys calcitrans*, indica, *Lyperosia exigua*, *Neivamyia lutzi*, hypopygia, 2214; SCHEDL, *Gnathotrichus* spp. (Col. Scolyt.), 2476; THIRUMALACHAR, *Periplaneta americana* (Orth. Blatt.), ovum-like bodies in testes, 2797; WHEDON, Odonata, 3018.

Nervous System.

BRUNO, structure of nerves of insects, 407; HERTWECK, *Drosophila melanogaster* (Dipt.), 1191; WU, *Osmoderma socialis* (Ceton.), larva, 3082.

Excretory System.

TIRELLI, termination of Malpighian tubes in mid-gut of larva of *Cloeon* (Ephem.), 2816; WIGGLESWORTH, *Rhodnius prolixus* (Hem. Reduv.), 3036.

Histology.

GREEN, *Vespa vulgaris*, histology of alimentary system, 1025; JODLowski, spinning glands of ant larvae, 1350; SEYFRIED, *Chrysetaerius iheringi* (Col. Hist.), 2560.

Myology.

HEIDERMANNS, *Aeschna coerulea* (Odon.), wing-muscles, 1145; MAZIARSKI, periovarian muscles in Coleoptera, 1819; SNELL, neuro-muscular mechanism controlling flashing in Lampyrids (Col.), 2632; WALKER, *Grylloblatta campodeiformis* (Orth.), muscles of head, 2960; WHEDON, Odonata, 3018.

Fat-body.

ÖRÖSI PAL, *Apis* (Hym.), 2096a.

Glands.

DOBROSKY, *Cicadula sexnotata* (Hem. Jass.), salivary glands, 687; JODLowski, histological structure of spinning glands of ant larvae, 1350; KRATKY, *Apis mellifica*, glands in head and thorax, 1513; MCKINLEY, *Aedes aegypti* (Culic.), salivary gland poison, 1707; ÖRÖSI PAL, *Apis* (Hym.), wax glands, 2096a; ROY & MAYNE, presence of supernumerary lobes in salivary glands of Anophelines, 2426; SEYFRIED, *Chrysetaerius iheringi* (Col. Hist.), hypodermal glands, 2560.

Stridulatory Organs.

KLEINE, Ceuthorrhynchini (Col. Curc.), 1459; LYSAGHT, *Caedicia simplex* (Orth.), 1693; MARCU, differences in stridulatory organs in male and female Curculionidae (Col.), 1752, 1758, 1761, 1762, Cerambycidae (Col.), 1753, Scolytidae (Col.), 1760; TEYROVSKY, *Sigara falleni* (Hem. Corix.), 2782.

Pupae.

ALEXANDER, Tipulidae (Dipt.) from Sunda Is., 25; COMSTOCK, *Oxylos citronellus* (Lep. Noct.), 568, *Argynnis* spp. (Lep.), 569; COMSTOCK & DAMMERS, *Poanes melane* (Lep. Hesper.), Bull. S. Calif. Acad. Sci., Los Angeles 30, pp. 20-22; CURTIS, *Teras contaminana* (Lep.), 624; FEUERBORN, *Telmatoscopus similis*, *ustulatus* (Dipt. Psych.), 858; GARDNER, *Parennometes gardneri* (Col. Rhipic.), 958; HODSON, *Eumerus tuberculatus*, *Syricta pipiens* (Dipt. Syrph.), 1237; KEARNS, *Stenomatus micans* (Hym. Pterom.), 1424; KITAKAMI, Japanese Blepharoceridae (Dipt.), 1451; NIESCHULZ, *Tabanus* spp., 2030; SATTERTHWAIT, N. American *Sphenophorus* (Col.), 2463; SCHEDL, *Gnathotrichus* spp. (Col. Scolyt.), 2476;

SEN, *Scatella stagnalis* (Dipt. Ephyd.), 2556; SENEVET, Palaearctic Culicinae, 2557; SETTY, *Bittacus stigmaterus* (Mecopt.), 2559; URBAN, *Gymnecron cellinum, linariae* (Col. Curc.), 2882; YAKHONTOV, *Epicauta erythrocephala* (Col. Meloid.), pseudopupa, 3089.

Larvae.

ALEXANDER, Tipulidae (Dipt.) from Sunda Is., 25; AUTUORI, *Araecerus fasciculatus* (Col. Anthrib.), Rev. Ent. S. Paulo 1 p. 60; BERTOLINI, *Pieris brassicae* (Lep.), 260; BERTRAND, aquatic Coleoptera, 261, 262; BORGOESCO, *Acentrella sinaica* (Ephem.), Bull. Acad. Roumaine, Bucarest 14 pp. 197-202, 8 figs.; BÖVING & CRAIGHEAD, illustrated synopsis of the principal larval forms of Coleoptera, 360; BRASAVOLA DE MASSA, *Bidessus geminus* (Col. Dytisc.), 369, *Duvalius wingelmülleri, baldensis, Neobathyscia antro-rum* (Col.), 370; BYERS, Florida Odonata, 451; COCKAYNE, larval cuticle in Noctuidae, 527; COMSTOCK, *Melitaea gabbii, Oxylos citronellus* (Lep.), 568, *Argynnis* spp. (Lep.), 569; COMSTOCK & DAMMERS, *Poanes melane* (Lep. Hesp.), Bull. S. Calif. Acad. Sci., Los Angeles 30, pp. 20-22; CROS, *Mylabris silbermanni* (Col. Meloid.), primary larva, 602, *Coryna* (Col. Meloid.), primary larvae of Algerian spp., 603; CURTIS, *Leucania vitellina*, 623, *Teras contaminana*, 624; DINULESCU, *Gastrophilus meridionalis* (?) (Dipt. Oestrid.), C.R. Acad. Sci. Fr. 193 pp. 550-552 figs.; VAN EMDEN, larvae of Megaloptera (Neur.) from Sunda Is., 780, *Telephanus costaricensis* (Col.), 783; FEUERBORN, Psychodidae (Dipt.), 857, 858; FULMEK, *Atractocerus emarginatus* (Col. Lymex.), 932; GARDNER, Indian Col. (contd.), 957, 958; GHIDINI, *Antisphodrus boldorii* (Col. Cafab.), 981; GRANDI, *Perilitus morimi* (Hym. Brac.), 1019; GREENE, *Pantophthalmus tabaninus* (Dipt.), 1026; HACHFELD, key to known primary larvae of German Meloids, 1067; HASE, *Mydopsylla wolffsohni salrasis* (Siphonapt.), 1109; HASEMAN, *Mayetiola destructor* (Dipt. Cecid.), 1111; HEYMONS & LINGERKEN, *Oceoptoma thoracica* (Col. Silph.), 1204; HODSON, *Eumerus tuberculatus, Syrrita pipiens* (Dipt. Syrph.), 1237; HOFFMANN, *Otiorrhynchus rugosostriatus* (Col. Curc.), 1241; HOPKINS, Ethiopian mosquitos, 1267; KARANDIKAR, *Trichocera ma-*

culipennis (Dipt. Tipul.), 1399; KEARNS, *Stenomalus micans* (Hym. Pterom.), 1424; KEILIN, *Neottiphilum praeustum* (Dipt. Dryom.), 1425, *Anthomyia pluvialis, procellaris* (Dipt.), 1426; KITAKAMI, Japanese Blepharoceridae (Dipt.), 1451; KITAO, *Nesodiprion japonica* (Hym. Tenthred.), 1452; KOJIMA, some Japanese Cerambycids, 1495; LENZ, *Oxycera* (Dipt. Strat.), key, 1614; LESTAGE, *Peltoptera* (Plecopt.), 1626; LIEFTINCK, *Epophthalmia* (Odon.), 1641; LOTHERSTEIN, *Bombyx mori*, mentum, mandibles, 1661; McDUNNOUGH, *Ephemerella*, 1700; MARTINI, *Dica* spp. (Dipt.), 1781; MASAITIS, *Selatosomus spretus, latus* (Col. Elat.), 1795; MAULIK, *Cladocera nigrovittata* (Col. Chrysom.), 1815, *Hispidia* (Col.), 1816; MICHEL, *Osmia loti, Panurgus banksianus* (Hym. Apid.), 1876; MILLER, nymphs of *Brachyplatys, Eusarcocoris, Antestia, Eurydema, Nezara, Piezodorus, Menida, Pycanum, Tetraoda, Derepteryx, Ochrochira, Anoplocnemis, Acanthocoris, Cletus, Ripitortus* (Hem. Pentat. Cor.), 1887; MORETTI, *Tanytarsus* (Dipt. Chiron.), 1918; MORGAN & O'NEIL, *Macronema zebratum* (Trichopt.), function of tracheal gills in larvae, 1920; MUKERJI, terminal segments of Psychodid larvae, 1949; MURAYAMA, some Korean Melolonthidae (Col.), 1969; OCHS, Gyrinid larvae from Sunda Is. (Col.), 2071; PATERSON, comparative morphology of early stages of some Chrysomelidae, 2129; PHILLIPS, New Zealand mayfly nymphs (Ephem.), 2169; PINTO, *Ctenocephalides felis* (Siphon.), 2212; PURI, Indian Anophelines, 2285; ST. GEORGE, *Boros unicolor* (Tenebr.), 2439; SALEM, *Aedes fasciata*, mouthparts and fore-intestine of 4th stage larva, 2442; SÁMAL, nymphs of *Ephemerella danica*, 2449; SCHEDL, *Gnathotrichus* spp. (Col. Scolyt.), 2476; SEN, *Scatella stagnalis* (Dipt. Ephyd.), 2556; SETTY, *Bittacus stigmaterus* (Mecopt.), 2559; STANKOVIĆ, *Tremma* sp. (Trichopt.), 2663; STEEL, *Oscinella frit* (Dipt.), 2670; TAYLOR, Dyar's rule and its application to sawfly larvae, 2766; URBAN, *Olibrus millefolii* (Col. Phalacr.), 2883; VAN-DER-FLAAS, *Antheraea pernyi* (Lep. Saturn.), structure of skin of larva, 2904; VIMMER, Diptera, 2935; WHEELER, *Vermileo comstocki* (Dipt. Rhagion.), 3020; YAKHONTOV, *Epicauta erythrocephala* (Col. Meloid.), last larval instar, 3089.

Eggs.

ALPATOV & BACHVALOVA, *Bombyx mori*, *Anopheles maculipennis*, variation, **52**; BERTOLINI, *Pieris brassicae* (Lep.), **260**; CHRISTOPHERS & BARAUD, *Anopheles*, eggs of Indian spp., **510**; HASE, *Myodopsylla wolffsohni salvasis* (Siphonapt.), **1109**; SEN, *Scatella stagnalis* (Dipt. Ephyd.), **2556**; TEODORO, colour of eggs of *Bombyx mori*, **2774**; WEBER, *Trialeurodes vaporariorum* (Hem. Aleur.), **2993**.

Variation.

ALPATOV, *Apis mellifica*, variation in European Russia and Caucasus, **51**; ALPATOV & BACHVALOVA, variation in eggs of *Anopheles maculipennis* and *Bombyx mori*, **52**; BEQUAERT, colour in *Vespa crabro* (Hym.), **241**; BRYK, *Parnassius* (Lep. Papil.), variation in eyespots, **415**; HEYDEMANN, *Hydroecia nictitans* group (Lep. Noct.), **1200**, *Leucania* spp. (Lep. Noct.), **1202**; HOLIK, complete albinism in Bohemian Satyrids, **1256**; KERKIS, *Eurygaster integriceps*, variation in genitalia (Hem. Pent.), **1432**; KRÜGER, *Bombus agrorum* (Hym. Apid.), colour variation, **1536**; MELL, *Hestina assimilis* (Lep. Nymph.), seasonal variation, **1824**; SPETT & SCHAPOSCHNIKOW, sexual variation in Coleoptera, **2651**; SPITZ, *Euptychia armilla* (Lep. Satyr.), colour variation, **2652**; TENENBAUM, *Epilachna chrysomelina* (Col. Coccinell.), variation in size of markings, **2768**; TEODORO, variation in number of perivulvar wax discs in Diaspinae (Hem. Coccid.), **2772**.

PHYSIOLOGY.**Respiration.**

ASHBEL, respiration of egg of *Bombyx mori*, **100**; BODINE, factors influencing respiratory metabolism of a developing egg, **318**; GOLYSHEV, *Bombyx mori*, gaseous metabolism in all stages, **1008**; GUNN, function of air-sacs, **1056**; HARNISCH, respiration of Chironomid larvae containing haemoglobin, **1089**, gaseous metabolism of *Chironomus* larvae, **1090, 1091**; HELLER, consump-

tion of oxygen by Lepidopterous pupae, **1158**; HERBER & SLIFER, regularity of respiratory movements in Locustidae, **1182**; HICKMAN, Halipidae, **1209**; HJESTAND, influence of varying tensions of oxygen upon respiration, **1212**; KOCAIN, influence of thyroxin injections on respiration, **1486**; MCGOVAN, *Chortophaga viridifasciata* (Orth.), **1703**; MICHAL, *Tenebrio molitor* (Col.), consumption of oxygen by larva, **1873**; MORGAN & GRIERSON, *Hexagenia recurvata* (Ephem.), function of gills, **1919**; MORGAN & O'NEIL, *Macronema zebratum* (Trichopt.), function of tracheal gills, **1920**; RAFFY, cutaneous respiration in Hydrophilid larvae (Col.), **2294**; RAFFY & PORTIER, intensity of respiratory exchanges during flight in Lepidoptera, **2295**; ROGERS, *Melanoplus differentialis* (Orth.), effect of temperature on oxygen consumption, **2389**; TAUCHERT, respiration and evaporation in insects, **2755**; TAYLOR & STEINBACH, *Galleria mellonella*, respiratory metabolism of pupa, **2763**; WIGGLESWORTH, *Insecta*, **3035**, extent of air in tracheoles of some terrestrial insects, **3040**.

Digestion.

ARNDT, digestion of sponges by beetle larvae, **90**; BECKWITH & ROSE, digestion of cellulose by organisms from termite gut, **196**; BRUCK, *Anopheles maculipennis* (Culic.), **397**; DICKMAN, intestinal flora of termites and digestion of cellulose, **677**; EVENIUS, *Apis mellifica*, digestion of starch, **824**; HASE, *Basilia bellardii* (Dipt. Nycterib.), **1108**; HOBSON, *Lucilia sericata* (Dipt.), larva, **1235**; SHINODA, *Bombyx mori* (Lep.), digestion of starch, **2576**; SWINGLE, digestion experiments on seven species, **2725**; TAHIR BEY, *Bombyx mori*, histophysiology of intestines, origin of peritrophic membrane, **2732**; TABEEV & NENJUKOV, *Calliptamus italicus* (Orth.), effect of poisons on normal digestion, **2753**; TITSCHACK, *Tineola biselliella* (Lep.), ceratin digested without bacteria, **2820**; VOGEL, relation between sweet flavour and food value of sugars and sugar alcohols in *Apis mellifica*, **2937**; WEBER, comparative physiology of sucking organs of Hemiptera, particularly Aphidae, **2990**; WIGGLESWORTH, *Chrysops silacea* (Dipt. Taban.), **3039**; WONG, supplementing

mulberry diet of silkworms with protein, 3079; YEAGER, *Periplaneta fuliginosa*, crop and gizzard movements, 3094.

Circulation.

FISCHER, heart-beats of pupa of *Sphinx ligustri* (Lep.), 869; GEROULD, premature reversal of heart-beat in *Bombyx*, Science, New York, 73 1931 pp. 323-325 (Lep.); HASE, *Basilis bellardii* (Dipt. Nycterib.), 1108; HOLLANDE, digestion of tubercular bacilli by leucocytes of blood in insect larvae, 1260; MEYER, circulation in Ephe-mero-*ptera*, 1858; RICHARDSON, BURDETTE & EAGLESON, determination of blood volume of insect larvae, 2362.

Secretion.

BOCK, silk secretion in insects, 308; CALUGAREANU, *Bombyx mori*, functional peculiarities of spinning glands, 453; JANDA, effect of endocrine glands on flight, 1325; KRATKY, *Apis mellifica*, glands in head and thorax, 1513; MENZEL, wax production by Coccinellid (Col.) larvae, 1842; ÖRÖSI PAL, *Apis*, wax secretion in winter, 2096a; SHIMIZU, *Bombyx mori*, crystals in exuvial fluid of larvae, 2572; ŠULC, function of the osmeterium in Staphylinidae (Col.), 2711; TAHIR BEY, *Bombyx mori*, function of exuvial glands, 2731; WAJDA, cytology of secretion of silk-glands of Trichoptera, 2959; WEBER, *Trialeurodes vaporariorum* (Hem. Aleur.), wax-secretion in larvae, 2993; WIGGLESWORTH, *Rhodnius prolixus* (Hem. Reduviid.), composition of urine, 3036, 3038.

Nervous System.

BETHE & WOITAS, plasticity of nervous system of Coleoptera, 264; SANCHEZ Y SANCHEZ, histolysing agents of the nervous system, 2454; SKOBELTZYNE, *Galleria mellonella*, destruction of ganglia and its influence on cocoons and on immunity, 2612, 2613; WHEDON, Odonata, 3018.

Muscles.

BARNES, muscle tension receptors in Arthropods, 158; HEIDERMANNS, *Aeschna coerulesa* (Odon.), wing-muscles, 1145; KOSMINA, ALPATOV & REZNTCHENKO, *Apis mellifica*, gaseous metabolism and energy production in

relation to muscular activity, 1510; SOLF, excitability of muscles in Orthoptera, 2641.

Senses.

DOLLEY, *Eristalis tenax*, adaptation of eyes to darkness, 694; FRIEDERICH, function of ocelli in Lepidoptera, 912; FRIEDRICH, sight in Cicindelidae (Col.), 913; HARTLINE, electric response to illumination of the Arthropod eye, 1100; IMMS, sense organs and insect behaviour, 1302; MINNICH, *Calliphora vomitoria*, chemical sensitivity to various sugars, of legs, 1892, and of proboscis, 1893; MÜLLER, function of frontal ocelli in bees and ants, 1952; NOWIKOFF, function of rhabdoms in insect eyes, 2051; VALENTINE, *Tenebrio molitor* (Col.), olfactory sense in adult, 2897; VIAUD, sight of worker bees, 2926; VIAUD & DODIN, sight in insects, 2927; WEIS, *Pyrameis atalanta*, perception of taste by tarsi, 3003; WEYRAUCH, *Forficula auricularia*, 3017; WILLRICH, colour sense in insects, 3064; WOLSKY, function of insect ocelli, 3074-3076.

Fat-body.

LIEBMAN, *Anopheles* (Dipt.), 1639; ÖRÖSI PAL, *Apis* (Hym.), function of fat-body in winter, 2096a; PAILLOT & NOEL, *Bombyx mori*, *Pieris brassicae* (Lep.), 2108; SEMICHON, *Dasyptoda plumipes* (Hym.), modification of albuminoids of fat-body before metamorphosis, 2554.

Effects of Various Stimuli.

ALLARD, reactions of some insects to rain, 46; BERTHOLF, *Apis mellifica*, reactions to light, 258, 259; BODINE & EVANS, *Pelopeus servilla* (Hym. Sphegid.), rhythmic responses to temperature, 319; BUXTON, *Rhodnius prolixus* (Hem. Reduv.), thermal death-point at different humidities, 447, law governing loss of water from an insect, 448; DEMIANOVSKIĀ, negative effect of feeding silkworms on glands from vertebrates, 668; DUNNING, *Habrobracon juglandis* (Hym. Bracon.), effects of X-rays, 734; EDDY, *Drosophila melanogaster* (Dipt.) and *Popillia japonica* (Col.), recovery from immersion in water, 746; FARRAR, *Apis mellifica*, influence of temperature on metabolism, 842; GEIGY, *Drosophila*

melanogaster (Dipt.), defective images produced by ultra-violet radiation of eggs, 970, 971; GRÜNEBERG, *Drosophila melanogaster* (Dipt.), effects of radiation, 1043; HEADLEE, effects of electro-magnetic waves on insects and their food-plants, 1132; HJESTAND, *Polistes pallipes* (Hym. Vesp.), *Periplaneta australasiae* (Orth. Blatt.), effect of thyroïd and thyroxin on metabolic rate, 1211; HIRSCHLER, effect of confining together larvae of different stages of the same insect, 1228; KOCAIN, influence of thyroxin injections on breathing, 1486; KOIDSUMI, X-ray irradiation of *Dacus* and *Drosophila* (Dipt.), 1492; *Chironomus viridicollis* (Dipt.), toxic action of sea-water on larva, 1494; LEAN, *Locusta migratorioides*, effect of climate on migrations and breedings in Nigeria, 1600; LENZ, effect of salt water on gills in Chironomids (Dipt.), 1613; LUCE, temperature effects on infrabar in *Drosophila*, 1671; MCCRADY, *Habrobracon* (Hym. Bracon.), effect of X-rays on genital tract and fat-body, 1695; MACGREGOR, mosquito larvae highly susceptible to injury by radiations, 1704; MANDL, *Cicindela* spp. (Col.), artificial alteration in colour by heat, light and chemicals, 1746; MARCHAL, *Trichogramma cacaeciae* (Hym.), effect of cold on micropterism, 1750; MEZZADROLI & VARETON, *Bombyx mori*, influence of Italian radio-active earths on larval development, 1867; NECHELES, night activity in insects due to air humidity and its effect on rate of water loss, 2004; RUMMEL, *Vanessa polychloros* (Lep. Nymph.), effects of insufficient food on colour, 2431; SCHULZ, *Tenebrio molitor* larva, adaptation to dry environment, 2514; SHULL, influence of low temperature on order of embryonic segregation in Aphids, 2579; STRELNÍKOV, influence of solar radiation on body temperature of insects, 2705; SWEETMAN, *Lachnosterna* (Melolon.), direct effects of temperature, moisture, light, barometric pressure, air movement, nutrition, 2720; TENNANT, *Drosophila* larva, maximum point in effect of prolonged X-ray irradiation, 2770; TERAQ & WAKAMORI, *Bombyx mori*, effect on second generation of feeding on thyroïd gland, 2780; THIENEMANN, *Chironomus* (Dipt.), reaction to varying oxygen content of water, 2795; UVAROV, effects of heat, humidity, and other

climatic factors on insects, 2893; WHITING & BOSTIAN, *Habrobracon juglandis* (Hym. Bracon.), effect of X-rays on larvae, 3026.

Effects of Mutilations.

BENAZZI, effect of mutilation of larval joints on those of the imago in holometabolic insects, 225; FRIZA & PRZIBRAM, *Sphodromantis bioculata* (Orth. Mantid.) and *Drosophila melanogaster* (Dipt.), regeneration of Johnston's organ after amputation, 921; HACHLOW, effects of amputation of various parts on Lepidoptera, 1068; KORSCHULT, transplantation, 1507.

Vitality and Longevity.

COATNEY, *Pseudolynchia maura* (Dipt. Hippobosc.), longevity on different hosts, 526; DUNNING, *Habrobracon juglandis* (Hym. Bracon.), effect of X-rays on viability and fertility, 734; VAN EMDEN, *Cephalonomia quadridentata* (Hym. Beth.), 784; GELEI, *Dasyhelea* larva (Dipt. Cerat.), length of life when deprived of moisture, 973; GRISWOLD, *Tineola biselliella* (Lep.) adult, 1041; PAYNE, *Habrobracon juglandis* (Hym. Bracon.), effect of temperature on length of life, 2136; VOUKASSOVITCH, H. & P., *Lecanium corni* (Hem. Cocc.), external factors causing mortality, 2948; WEBER, *Trialeurodes vaporariorum* (Hem. Aleur.), vitality of various larval stages and effect of temperature, light, food and moisture on longevity, 2993.

Chemistry.

ASHBEL, production of ammonia in eggs of *Bombyx*, 100; BRECHER, inorganic components of blood of Lep. pupae, 372; BRES, analysis of beeswax (Hym.), Bull. Soc. linn. Seine-marit., Le Havre 13 1927 p. 85; HOBSON, *Lucilia sericata* (Dipt.), enzyme from larvae which digests collagen in alkaline solution, 1234; INONE & SUZUKI, isolinoic acid of silkworm pupa, 1307; JUCCI, pigment of blood and of silk secretion in *Bombyx mori*, 1380; MELVIN, quantitative study of copper in insects, 1831; MEYER, absorption of vegetable dyes in bodies of Lepidopterous larvae, 1859; NENJUKOV & TAREEV, determination of non-protein nitrogen in blood, 2011; PARFENTJEV & DEVRIENT, action of arsenic on gaseous metabolism in insects, 2119; REZNICHENKO, deter-

mination of pH of insect blood, 2351; RONA, PARFENTJEV & LIPPMANN, oxydation catalysts of insects, 2397; SCHMALFUSS & BARTHMEYER, distribution, origin and significance of melanogens in insects, 2486-2488; SHIMIZU, *Bombyx mori*, origin of crystals in exuvial fluid of larvae, 2572; SLIFER, fatty acids from grasshopper eggs, 2615, 2618; SWINGLE, pH of digestive tract of certain insects, 2726, 2727; TAYLOR & CRESCITELLI, *Galleria mellonella* (Lep. Pyral.), glucose and water concentrations during pupal development, 2762; TEODORO, *Bombyx mori* (Lep.), glutathion in embryo, 2775, presence of tyrosinase in haemolymph, 2776, pigment in eggs, 2777, 2778; TIMON-DAVID, *Exeristes roborator* (Hym. Ichne.), chemical character of oil produced from, 2815; TIRELLI, *Bombyx mori*, behaviour of glycogen during embryonic development, 2818; UVAROV, ash content of insects, 2894; ZERNOFF, bacteriolysins in insects, 3103.

Miscellaneous.

BEER, fluorescence of larvae and cocoons of *Bombyx mori* under ultraviolet rays, 200-202, X-rays applied to pupae and adults of *Bombyx mori*, 203; BODENHEIMER & SCHMIDT, Robinson method for determination of bound and free water in insects, 317; BOISSEZON, *Culex pipiens*, histo-physiology, 321; BUGNION, physiology of luminous organs in Lampyrids (Col.), 426; BUXTON, measurement and control of atmospheric humidity in relation to entomological problems, 446; CHORINE, immunity in insects, 504; CORKINS, *Apis mellifica*, metabolism during winter, 574; CORSET, physiology of coaptations in insects, 576; DAVIS & SLATER, *Periplaneta orientalis*, aerobic and anaerobic metabolism, 643; EIDMAN, physiological investigation of female genitalia of Lepidoptera, 766; ESSEX, MARKOWITZ & MANN, *Apis mellifica*, physiological action of the venom, 814; HEBERDEY, physiology of female genital ducts in insects, 1139; RAMME, loss or depreciation of fertility in brachypterous Orthoptera, 2300; TAUCHERT, investigations on insect metabolism, 2756; TEISSIER, physiology in insect growth, 2767; VIMMER, physiology of Dipterous larvae, 2935.

DEVELOPMENT.

Spermatogenesis.

BAUER, *Tipula paludosa* (Dipt.), 182; BAUMGARTNER, Gryllidae (Orth.), 183; GATENBY, *Abraxas grossulariata* (Lep. Geom.), 960, 961; GEIGY, *Drosophila melanogaster* (Dipt.), 971; LUCAS & STARK, cytoplasmic phenomena in sperm cells of grasshoppers, 1665; NELSEN, *Melanoplus differentialis* (Orth. Acrid.), 2010; ORSKA, *Apis mellifica*, 2097, 2098; STEPORE, *Nepa cinerea* (Hem. Nepid.), 2682.

Oogenesis.

BAUER, *Tipula paludosa* (Dipt.), 182; VAN EMDEN, *Cephalonomia quadridentata* (Hym. Beth.), 784; NELSEN, *Melanoplus differentialis* (Orth. Acrid.), ovarian development, 2009; PAYNE, cytoplasmic changes in young ova, 2135; WEBER, *Trialeurodes vaporariorum* (Hem. Aleur.), 2993.

Embryology.

BATAILLON & SU, artificial stimulation of extrusion of polar body in *Bombyx* (Lep.), 180, types of mitosis in *Bombyx* egg, 181; BODINE, factors influencing rate of respiratory metabolism of a developing egg, 318; CAROTHERS, maturation divisions and segregation of heteromorphic homologous chromosomes in Acrididae, 469; VAN EMDEN, *Cephalonomia quadridentata* (Hym. Beth.), 784; GALÁN, *Phytodecta variabilis* (Col.), mitosis and chromosome reduction, 948; GEIGY, *Drosophila melanogaster* (Dipt.), 971; HAGAN, *Hesperoctenes fumarius* (Hem. Polyctenid.), 1070; KERKIS, *Drosophila melanogaster*, growth of gonads, 1431; MANALANG, *Anopheles funestus*, maturation of ova, 1743; PARKER, list of parasitic Hymenoptera known to be polyembryonic, 2124; PATERSON, *Euryope terminalis* (Col. Chrysom.), 2128; SEHL, *Ephestia kuehniella* (Lep. Pyral.), embryonic development, 2546; SEIDEL, *Platynemius pennipes* (Odon.), 2548; SLIFER, blastokinesis in grasshopper eggs, 2616, mitosis in embryo of *Melanoplus* (Orth.), 2617; TIRELLI, blastokinesis in insects, 2819; USOW, *Bombyx mori*, growth and nutrition of eggs, 2886.

Cytology.

BEAMS & KING, structure of cells of salivary glands and ganglion cells in

grasshoppers, 189, 190; BENKERT, *Reticulitermes flavipes* (Isop.), chromosome number of first form reproductive caste, 232; CHARIN, culture of insect tissues in vitro, 491; DOBROSKY, *Cicadula sexnotata* (Hem. Jass.), 687; GATENBY, spindle bridges and spermatocyte Golgi bodies in moths, 959, induced multiplication of Golgi bodies in *Abraxas* (Lep.), 961; GEIGY, structure of sterile gonads in *Drosophila*, 971; GILMORE & WHITING, *Habrobracon* (Hym.), cytological significance of females from unfertilised eggs, 990; GOLDSCHMIDT, *Lymantria dispar* (Lep.), development of gonads in intersexes, 1004; JEFFREY, *Drosophila*, cytological evidence as to status, 1344; JOHNSON, cytoplasmic components of male germ cells in Gryllidae (Orth.), 1359; KAUFMANN, *Drosophila* (Dipt.), chromosome structure, 1420; KAWAGUCHI, *Bombyx*, dimorphism of epithelial cells of mid intestine, 1421; KING, chromosomes of Mantidae (Orth.), 1441; LUCAS & STARK, behaviour of living sperm cells in grasshoppers (Orth. Acrid.), 1665; MAKINO, *Diestrammena japonica* (Orth. Stenopelm.), chromosomes, 1720; METZ, *Sciara coprophila* (Dipt.), chromosomal differences between germ cells and soma, 1854; NEWTON, cytology of sense-organs at base of wings in *Apis*, 2020; PAILLOT & NOEL, *Bombyx mori*, *Pieris brassicae*, cytology of blood, silk glands and pericardial cells, 2108; RADU, structural details of tracheal cells of an Oestrid fly, 2291; RADULESCO, Thysanoptera, 2292; RAVETTA, polyploidy of somatic cells in Diptera, 2315; REITH, *Camponotus ligniperda* (Hym. Form.), determination of germinal layers, 2347; SCHMUCK & METZ, method for study of chromosomes in entire insect eggs, 2497; SCHRADER, *Prototonia primitiva* (Hem. Coccid.), chromosome cycle and meiotic division, 2507; SCOTT, variables of tissue fixation in *Melanoplus femurrubrum* (Orth. Acrid.), 2529; STERN & OGURA, *Drosophila melanogaster*, aberrations of y-chromosome, 2685; STERN & SEKIGUTI, analysis of mosaic in *Drosophila melanogaster* (Dipt.), 2686; TATEISHI, *Brachytrupes portentosus* (Orth. Gryllid.), chromosome variations, 2754; USOW, unusual method of cell propagation in *Bombyx mori*, 2887; WAJDA, cytology of secretion of silk-glands of Trichoptera, 2959.

Effects of Various Factors on Growth.

ABONYI, *Bombyx mori*, effect of artificial food-stuffs, 4; ACQUA, *Bombyx mori*, possibility of influencing bivoltinism during larval stage, 6; ALPATOV & ROZHDESTVENSKAYA, effects of ultraviolet rays on development of eggs of *Bombyx*, 53; ANDERSEN, effect of humidity of the air on embryonic development, 62; BODINE & EVANS, *Pelopeus servilla* (Hym. Sphegid.), effects of temperature on larval development, 319; BOSTIAN, *Habrobracon* (Hym.), effects of X-rays on sex-ratios, 350; FILINGER, *Phlyctaenia ferrugalis* (Lep. Pyral.), effect of temperature on feeding and development, 860; GAUSE, *Drosophila* spp. (Dipt.), effect of shortened larval feeding time on size of egg, 963; HANSON & HEYS, *Drosophila* (Dipt.), effect of X-rays on starved and anaesthetised flies, 1083; HARUKAWA, TAKATO & KUMASHIRO, *Chilo simplex* (Lep. Pyral.), effect of constant temperature on development, 1105; HODGE, *Melanoplus differentialis* (Orth. Acrid.), growth on mixed diet and on single food-plant, 1236; HOLLOWAY, *Tiphia popillivora* (Hym. Scol.), temperature as factor in development, 1262; JANDA, *Anthrenus museorum*, *Dixippus morosus*, effect of thyroid glands on growth, 1326; JANISCH, effect of external factors on variation and mortality of insects in Ceylon, 1329; KLAUE, effect of bright light on emergence of butterflies, 1455; KOIDSUMI, *Chaetodacus cucurbitae* (Dipt. Tryp.), fatal action of low temperatures on pupae and larvae, 1493; LUDWIG, *Popillia japonica* (Col. Rutel.), effect of temperature, 1672-1674; MACGILL, *Thrips tabaci*, relation between temperature and humidity and life-cycle, 1702; MILLER, *Dendroctonus brevicornis* (Col. Scol.), high and low lethal temperatures, 1885; NIESCHULZ & BOS, *Culex pipiens* (Dipt.), effect of high temperature on larval growth, 2032; PATTERSON, *Drosophila melanogaster* (Dipt.), production of gynandromorphs by X-rays, 2131; PAYNE, *Habrobracon juglandis* (Hym. Bracon.), effect of temperature on development, 2136; PEREDEL'SKII, *Bombyx mori*, effect of atmosphere of cocoon on duration of life of adult, 2148; PLATOVA, *Bombyx mori*, influence of nourishment and darkness on fertility, 2223; POWELL, *Lasioderma serricorne* (Col.),

temperature and humidity effects on metabolism, 2254; SPEICHER, *Ephestia kühniella* (Lep. Pyral.), effect of desiccation on growth, 2647; SPRINGER, *Pyrausta nubilalis* (Lep. Pyral.), effect of temperature, humidity and X-rays on hatching of eggs, 2653; STANLEY, *Drosophila melanogaster*, effect of temperature on vestigial wings, 2664; STITZ & BEYER, effects of ultra-violet rays on bees, 2696; TEISSIER, growth of insects in various conditions, 2767; TERAO & WAKAMORI, *Bombyx mori*, effect on second generation of feeding on thyroid gland, 2780; TOUMANOFF & ZERNOFF, *Carausius morosus*, influence of temperature and humidity on hatching of egg, 2832; UVAROV, insects and climate, 2893; WADLEY, *Toxoptera graminum* (Aphid.), effects of temperature, humidity, light, food, 2952; WEBER, *Trialeurodes vaporariorum* (Hem.), effect of various external factors on development of all stages, 2993; WIGGLESWORTH, *Cimex lectularius*, effect of desiccation, 3037; WILES & CHIDESTER, *Drosophila* (Dipt.), effect of adrenal cortex, anterior pituitary and thyroid on growth, 3043; DAVIDSON & BALD, *Frankliniella insularis* (Thysanopt.), 641; METZ, *Sciara* (Dipt. Mycet.), 1855; METZ & SCHMUCK, *Sciara*, 1856; NELSEN, *Melanoplus differentialis* (Orth. Acrid.), 2010.

Sex Ratios.

BARNES, Cecidomyiidae (Dipt.), 157; BARTH, *Drosophila*, sex ratio affected by X-rays, 174; BOSTIAN, *Habrobracon* (Hym.), sex-ratios from X-rayed adult females, 350; VAN EMDEN, *Cephalonomia quadridentata* (Hym. Beth.), 784; LAURINAT, influence of age of germ cells on the sex ratio in *Drosophila*, 1590; SIMMONDS, *Hypolimnas bolina* (Lep. Nymph.), Proc. Ent. Soc. London 5 p. 75.

Parthenogenesis.

BUGINI, *Bombyx mori*, natural parthenogenesis, 424; VAN EMDEN, *Cephalonomia quadridentata* (Hym. Beth.), 784; NICETA, *Bombyx mori*, 2024; NOLL, *Halictus* spp. (Hym. Apid.), 2043; ROBERTSON, formation of hybrids a factor in parthenogenesis in Tetriginae, 2379, 2381; SATO, *Bombyx mori*, artificial parthenogenesis 2462; VANDEL, 2902; WEBER, *Trialeurodes vaporariorum* (Hem.), 2993.

Paedogenesis.

HAGAN, *Hesperoctenes fumarius* (Hem. Polyceten.), 1070; KLYVER, paedogenesis in a Cecidomyiid (Dipt.), 1475.

Regeneration.

KORSCHOLT, 1507.

Diapause.

BOYCE, *Rhagoletis completa* (Dipt. Trypet.), 362; HELLER, significance of diapause in Lepidopterous pupae, 1157; ROUBAUD, *Lucilia sericata* (Dipt. Caliph.), inheritance of diapause, 2420.

Metamorphosis.

BISCHOFF, Blepharoceridae (Dipt.), 284; BUDDENBROCK, moult hormones of Lepidopterous larvae, 421; CRAMP-TON, criticism of current theories on origin of metamorphosis, 590; CROS, *Meloë* spp. (Col.), 601; DAWSON, *Telea polyphemus* (Lep. Saturn.), metathetely, 644; DOVER, effects of inadequate feeding on metamorphosis, 703; VAN EMDEN, *Cephalonomia quadridentata* (Hym. Beth.), 784; HACHLOW, transformation in Lepidoptera, 1068; HAGAN, *Hesperoctenes fumarius* (Hem. Polycetenid.), 1070; HELLER & MOKEOWSKA, *Deilephila euphorbiae* (Lep. Sphing.), composition of blood in course of metamorphosis, 1160; KEMPER, *Cimex lectularius* (Hem.), moulting of larvae, 1429; LUDWIG, *Popillia japonica* (Col. Rutel.), weight and metabolism changes from larva to adult, 1675; MANUILOVA, *Bombyx mori* (Lep.), measurements of growth of larva, 1747; MILES, Tenthredinidae (Hym.), growth in larvae, 1881; PEREDEL'SKIĬ, *Bombyx mori*, rôle of nervous system during metamorphosis, 2147; SPETT, *Chorthippus* spp. (Orth. Acrid.), development of specific differences in postembryonic ontogenesis, 2650; WEBER, *Trialeurodes vaporariorum* (Hem. Aleur.), 2993.

Miscellaneous.

DAWSON, *Telea polyphemus* (Lep. Saturn.), voltinism and dormancy, 645; GRAY, *Homaledra sabalella* (Lep.), post-embryonic development of digestive system, 1022; HAGAN, viviparity in insects, 1070; HEBERDEY, development of female genital ducts in insects, 1139; HUXLEY, relative growth of mandibles in Lucanidae (Col.), 1300; NEGODI, *Lucanus cervus* (Col.), correlation in growth, 2007; NOLL, *Halictus*

spp. (Hym. Apid.), types of broods, 2043; PIERANTONI, *Silvanus surinamensis* (Col. Cucuj.), development of symbiotic organs, 2209; TEISSIER, biochemistry of growth of insects, law of disharmony, 2767.

AETIOLOGY.

Evolution, Phylogeny.

BRADLEY, brief laboratory guide to phylogeny, 364; CARPENTER, phylogeny of Odonata, 470; COCKERELL & LE VEQUE, evolution of insect structures, 548; CORSET, evolution of coaptations in insects, 576; CRAMPTON, origin of metamorphosis, 590, metamorphic and basal abdominal structures, 592, *Notiothauma reedi* (Fossil, Mecopt.), genitalia and phylogeny, 593; ERHARDT, phylogenetic value of relationship determination by immunity reactions, 801; FRIESE, parasitic bees arising from honey-gathering bees, 918; JEANNEL, phylogeny of cavernicolous Coleoptera of Carpathian Mts., 1338; KRUMBIEGEL, Carabidae (Col.), evolution of species, 1537; LESTAGE, wings of Ephemeroptera, 1627; MARAN, wings of Cerambycidae (Col.), 1748; MARTINI, convergence and correlation in adult Culicids in reference to feeding habits of larvae (Dipt.), 1787; MURAYAMA, phylogenetic importance of larval characters in Lamellicorns (Col.), 1969; NEWTON, origin of sensory nerve-fibres in insects, 2020; NOLL, *Halictus* (Hym. Apid.), 2043; PETERSEN, effects of distribution and food on formation of species in Lepidoptera, 2156; PONGRÁČ, Termite wings, 2241; ROSS, Dolerinae (Hym. Tenthr.), 2402; SCHWANWITSCH, evolution of wing-pattern in *Melanargia* (Lep. Satyr.), 2520; SHINJI, Aphidae (Hem.), evolutionary significance of chromosomes, 2575; TILLYARD, evolution of insects, 2810.

Genetics.*

ANUCHIN, *Bombyx mori*, mutability and inheritance in cocoons, 76; BISCH-

LER & PIQUET, *Drosophila immigrans*, spontaneous mutations, 276; BOBBROW & FRIESEN, *Bombyx mori*, 307; BOSTIAN, *Habrobracon* (Hym.), mutation of fused antennae and tarsi, 349, *Habrobracon*, mutants from X-rayed adult females, 350; CAPPE DE BAILLON, inheritance of abnormalities in Phasmids, 462; CORSET, inheritance of coaptations in insects, 576; DOB[R]ZHANSKY, *Drosophila melanogaster*, translocations involving second and fourth chromosomes, 689; DUNNING, *Habrobracon juglandis* (Hym.), effect of X-rays on rate of mutation, 734; EIGENBRODT, *Drosophila*, somatic effects of temperature on a homozygous race, 767; FISCHER, crossing and inheritance in Rhopalocera, 870; FRYER, *Acalla comariana* (Lep. Tortr.), inheritance of wing colour, 927; GEIGY, ultra-violet rays and mutation in *Drosophila*, 971; GOLDSCHMIDT & KATSUKI, *Bombyx mori*, inherited gynandromorphism, 1006; GOWEN, *Drosophila* (Dipt.), genetic non-disjunctional forms, 1015; HELLER, inheritance factor in metabolism in Lepidoptera, 1159; JOLLOS, *Drosophila*, induced mutation, 1363; JUCCL, *Bombyx mori*, maternal inheritance of bivoltinism, 1381; KAESTNER, inheritance of colours produced by temperature in *Habrobracon juglandis* (Hym.), 1385; KLINGSTEDT, sex chromosomes of Lepidoptera and Trichoptera, 1469; LÜDWIG, *Pyrrhoris apterus* (Hem.), inheritance of wing-position, 1676; METZ, unisexual progenies in *Sciara* (Dipt. Mycet.), 1855; METZ & SCHMUCK, *Sciara*, sex chromosomes, 1856; MICHAIOFF, *Apis mellifera*, inheritance of white eyes, 1872; OGURA, *Bombyx mori*, inheritance of colour of cocoon, 2074; PAYNE, *Drosophila*, bristle inheritance, 2134; PEACOCK & GRESSON, *Sirex cyaneus* (Hym.), male haploidy and female diploidy, 2139; PICTET, crossing of *Lasiocampa quercus* with its alpine races (Lep.), 2206; PLATE, *Drosophila*, Jollos' orthomutation, 2222; RICHARDS, *Drosophila melanogaster*, influence of environment on inheritance of two characters, 2356; ROBERTSON, *Apotettix eurycephalus* (Orth. Tetrig.), permanent chromosomal translocation induced by X-rays, 2380, *Apotettix* and *Paratettix*, origin of partho-produced males, 2381, synopsis in Tetriginæ (Orth. Acrid.), 2382; ROMASCHOFF & BALKASCHINA, *Drosophila funebris*

* See also under Section I, General Zoology.

(Dipt.), 2396; ROUBAUD, *Lucilia sericata* (Dipt.), inheritance of diapause, 2420; SHULL, *Macrosiphum solanifolii* (Hem. Aphid.), production of gamic females by winged mothers, 2580; STURTEVANT et al., *Drosophila simulans melanogaster* (Dipt.), 2710; THIRUMALACHAR, *Periplaneta americana* (Orth. Blattid.), inherited hermaphroditism shown by ovum-like bodies in testes, 2797; TIMOFÉEFF-RESSOVSKY, *Drosophila melanogaster*, effect of Röntgen rays on mutation, 2811; WHITING, *Habrobracon juglandis* (Hym.), diploid males, 3025; WHITING & BOSTIAN, *Habrobracon juglandis* (Hym.), effect on inheritance of radiation of larvae, 3026; WINIWARTER, *Tettigonia albifrons* (Orth.), development of heterochromosome, 3066.

Variation.

CORSET, variation in coaptations in insects, 576; EWING, factors affecting variation in N. American fleas, 825; FRYER, *Acalla comariana* (Lep. Tortr.), 927; GIERSEBERG, connection between morphological and physiological change in colour, 983; GÖTZE, length of proboscis in honey-bees, 1012; GOWEN, *Drosophila*, variegated eye-colour, 1016; HERTWECK, *Drosophila melanogaster*, variation in nervous system and sense-organs, 1191; JORDAN, *Hyloicus pinastri* (Lep. Sphing.), geographical variation, 1371; MELL, *Hestina assimilis* artificially produced from *Diagora nigrivena* (Lep. Nymph.), 1824; MICHAÏLOFF, seasonal variation in honey-bees, 1870; MOHR, *Rhodo-baenus tredecimpunctatus* (Col. Curc.), correlation of food-plant and colour pattern, 1905; MÜLLER, *Larentia truncata*, *immanata* (Lep. Geom.), 1960; 1961; SHULL, *Macrosiphum solanifolii* (Hem. Aphid.), variation in colour, wing production and production of gamic females, 2580; THORPE, biological races in insects and their significance in evolution, 2803, 2804; TIMOFÉEFF-RESSOVSKY, *Drosophila funebris*, variation in phenotypical manifestation of genovariations, 2812, 2813; ZIMMERMANN, *Epilachna chrysomelina* (Col. Coccinel.), influence of selection and temperature on pigmentation, 3116, *Polistes* and allied Vespids, individual and geographical variation, 3117.

Colour.

ATZLER, *Dixippus morosus*, morphological and physiological change of colour, 101; BANDERMANN, changes of colour in growing larva of *Attacus jorulla* (Lep. Saturn.), 138; BRUNETEAU, origin of colour in insects, 404; BRYK, *Parnassius* (Lep. Papil.), dependence of eyespots on wing-veins, 415; DELAGE, coloration and pigments in insects, 654; DEMIANOVSKI & RAKOVSKA, *Bombyx mori*, origin of natural colour of cocoon, 669; GIERSEBERG, coloration of Lepidoptera, 982; KAESTNER, influence of temperature on coloration of *Habrobracon juglandis* (Hym.), 1385; RUMMEL, *Vanessa polychloros* (Lep. Nymph.), effects of insufficient food on colour, 2431; SCHLIEFER, light intensity in spectrum of insects, 2485; SCHMITT-AURACHER, *Carausius morosus* (Orth. Phas.), changes in colour during development, 2493; VAN THIEL, *Anopheles maculipennis*, effects of various coloured surroundings on colour, 2794; TONON, *Bombyx mori*, albinism, 2828; VAN ATTA, *Drosophila melanogaster*, spectrum analysis of eye colour, 2899; VAN BEMMELEN, colour markings of insects, 2900.

Melanism.

BANDERMANN, *Papilio* spp., Int. ent. Z. 25 pp. 191-192; BERGMANN, melanistic and albinistic forms of Thuringian Lepidoptera, 249; BRINKMANN, *Agria tau* in Ruhr district (Lep. Saturn.), 382; KNOCH, *Agria tau*, melanism due to damp in Lübeck, 1481; LEMCHE, *Amphidasis betularia* (Lep. Geometr.), 1607; MÜLLER, *Larentia* spp. (Lep. Geom.), 1960.

Dimorphism.

BERTOLINI, *Pieris brassicae* (Lep.), dimorphism in egg, 260; DIXEY, relation of locality to seasonal forms of butterflies, 683; FERNALD, *Podalonia violaceipennis* (Hym. Spheg.), 851; MAHDIHASSAN, sexual and other dimorphisms among lac insects (Hem. Coccid.), 1713; MARCHAL, *Trichogramma cacaeciae* (Hym.), seasonal dimorphism, 1750.

Mimicry.

BANKS, *Amulius longiceps*, frog-like Reduviid from Borneo, Proc. Ent. Soc. Lond. 6 pp. 57-58; BAKER, attacks of birds on butterflies observed in Oriental

Region, 120; CATHERINE, homochromism in insects, 483; FLETCHER, attacks of birds on butterflies, *Proc. Ent. Soc. Lond.* 5 pp. 85-86; HARDER, modern conception of the problem of mimicry and protective endeavour, 1084; HAWKINS, attacks of birds on British moths, *Proc. Ent. Soc. Lond.* 6 p. 18; KAYE, *Heliconius charithonia* (Lep.) and its mimics, 1422; MILLER, Coreid bugs secreting an obnoxious fluid from the thorax, 1886; MYERS, insect food of the coati, 1976; NICHOLSON, insects eaten by robins, 2027; PITMAN, insect food of African lemur, 2219; POULTON, 2252; British moths eaten by bats, *Proc. Ent. Soc. Lond.* 6 p. 18, *Polyommatus corydon* captured by birds, *Proc. Ent. Soc. Lond.* 6 pp. 2-3, hedge-sparrow feeding young cuckoo on *Pieris rapae*, *Proc. Ent. Soc. Lond.* 5 p. 85, British Lep. bearing evidence of bird attack, *Proc. Ent. Soc. Lond.* 5 pp. 67, 86, 98-99; SALT, false head of Colombian Lycaenids, 2448; SCRIVENER, *Gypona octolineata* (Hem. Jassid.) nymph mimicking leaf stipule, 2533; SEITZ, protective coloration in Brazilian Lepidoptera, 2551; STEVENS, *Aporia bieti* attacked by sparrows in Tibet, *Proc. Ent. Soc. Lond.* 5 p. 67; TALBOT, *Rhodogastria leucoptera* (Lep. Arct.), protective device, 2748; VIGNON, camouflage in insects, 2929; WASMANN, ant mimicry, 2982; WHEELER, *Camponotus sericeiventris* and its mimic *Epiphorus velutinus* (Cerambyc.), 3023; WILLIAMS, Ithomine butterfly model and Callimorphine moth mimic with similar flight, *Proc. Ent. Soc. Lond.* 6 p. 57, *Belenois mesentina* attacked by birds in E. Africa, *Proc. Ent. Soc. Lond.* 5 p. 65.

Gynandromorphs, Intersexes.

BISCHOFF, *Mutilla dubia* (Hym.), 279; DOB[R]ZHANSKY, interaction between female and male parts in gynandromorphs of *Drosophila simulans* (Dipt.), 688; EDWARDS, gynandromorphs and mermithogynes in Nematoceros Diptera, 755; FLETCHER, *Metanastria hyrtaca* (Lasioc.), 880; GOLDSCHMIDT, *Lymantria dispar* (Lep.), 1004, 1005; OEBENBERGER, *Lucanus cervus* (Col.), 2415; HOHNDOFF, *Halicetus tumulorum* (Hym.), 1254; PATTERSON, *Drosophila melanogaster* (Dipt.), production of gynandromorphs by X-rays, 2131; PICARD, *Biorhiza pallida* (Hym. Cynip.), 2200; SCHIRBER,

Morpho menelaus (Lep.), 2483; THIRU-MALACHAR, *Periplaneta americana* (Orth. Blattid.), ovum-like bodies in testes showing inherited hermaphroditism, 2797; VANDEL, *Pheidole pallidula* (Hym. Formicid.), 2903; WHEELER, additions to list of known ant gynandromorphs, 3022; WHITING, *Habrobracon*, diploid male parts in gynandromorphs, 3027; WHITING & STANCATI, *Habrobracon*, gynandromorph from a post-reduced binucleate egg, 3029.

Hybrids.

AMIOT, *Saturnia*, *Ent. Z.*, Frankf. 45 p. 244; FISCHER, Lepidoptera, 870; FORGE, *Limenitis populi* × *Huphina nerissa*, *Ent. Rdsch.* 48 p. 170, fig.; KOTZSCH, *Celerio*, *Pergesa* (Sphing.), *Ent. Z.*, Frankf. 44 1931 pp. 303, 304; NIEFELT, *Antheraea* (Saturn.), *Int. ent. Z.* 24 p. 504, *Celerio*, *Int. ent. Z.* 25 pp. 181, 360; PASOLD, *Celerio*, *Int. ent. Z.* 25 p. 263; PFAFF, *Celerio*, *Ent. Z.* 45 p. 252, pl.; PRESTIN, *Parnassius*, *Studi trentini*, Trento 10 1929 pp. 56-59, 2 pls.; REUSS, *Chrysophanus*, *Int. ent. Z.* 25 p. 283; VOGELER, *Rothschildia* (Saturn.), *Ent. Z.* 45 p. 7 figs.

Teratology.

ALFONSUS, *Apis mellifica* with one eye, 44; BALFOUR-BROWNE, *Deronectes elegans* (Col.), abnormal aedeagus, 128; BRYK, *Parnassius* (Lep. Papil.), abnormal number of eyespots, 415; BURGEON, *Stephanorrhina guttata* (Col. Ceton.) anomalies, 436; CAPPE DE BAILLON, Phasmids, 462; COCKAYNE, Lepidopterous larvae, 528, 529; DALLAS, Coleoptera, *Rev. Soc. ent. argent.* 3 pp. 269, 333, 352, 356, figs.; DAVID, *Calosoma inquisitor* (Carab.), *Z. wiss. Insekt Biol.* 26 p. 149; HAYWARD, *Scolia vitripennis* (Hym.), *Epitragus laevicollis* (Tenebrion.), *Cistudinella lateripunctata* (Cassidid.), *Pieris phileta automate* (Lep.), 1129; JOHNSON, *Glypta nigrotrochanterata* (Ichne.), *Proc. Ent. Soc. Lond.* 6 p. 52; KÖNIG, *Dilina tiliae* (Lep. Sphing.), *Int. ent. Z.* 25 p. 190; LENZ, *Dilina tiliae*, 1616; LUEDERWALDT, *Passalus punctiger* (Col.), 1679; MASI, *Aulacidea* (Hym. Cynipid.), unilateral wings, 1797; MICHALK, anomalies in Lygaeid (Hem.) antennae, 1874; PARK, *Eleodes carbonaria* (Col., Tenebr.), 2122.

Factors influencing Population.

BLUNCK, variation in insect abundance and its causes, 300; CLAYHILLS, *Calymnia trapezina* (Lep. Noct.), dependence on temperature of annual abundance, 524; DE LONG, method for sampling populations of quick-moving insects, 658; EYER, *Erythroneura comes* (Hem. Jass.), relation of temperature and rainfall to outbreaks, 826; HEADLEE, influence of summer rainfall on mosquito prevalence, 1133; JANISCH, analysis of the causes of increases of insects, 1328; ZWÖLFER, *Panolis flammea* (Lep.), effects of climate on abundance, 3132.

Miscellaneous.

LESNE, organic adaptation in symbiotic Bostrychidae (Col.), 1625; PICARD, apterism in *Biorhiza pallida* (Hym. Cynip.), 2200; THOMPSON, reproduction of organisms with overlapping generations, 2801.

ETHOLOGY.**Ecology.**

ALEXANDER, Australian crane-fly larvae (Dipt. Tipulid.), 33; ALEXINSCHI, Macrolepidoptera of Bessarabia, 35; BANZHAF, insect fauna of Greifswald Oie, Baltic Sea, 144; BARBEY, insect fauna of fire-ravaged forests, 152; BARTENEV, ecology of Russian Odonata, 169; BEI-BIENKO, zonal and ecological distribution of Acrididae in W. Siberia, 207; BENICK, insects of tree-holes, Germany, 226; BODENHEIMER, influence of temperature on insects, 313; BODENHEIMER & KLEIN, *Messor semirufus* (Hym. Form.), activity dependent on temperature and other factors, 315; BODENHEIMER & SCHEINKIN, determination of temperature of insects, 316; BYERS, Florida Odonata, 451; F. C., Arthropods in marmot burrows in the Alps, Nature, Paris 1931 pp. 106-110, 6 figs.; CHAPMAN, animal ecology with especial reference to insects, 490; COOK, ecologically arranged list of Noctuidae of Montana, 570; DONISTHORPE, insects in moorhens' and swans' nests, 697; DUNHAM, effect of exposing colony of

bees to high external temperatures, 732; ECKSTEIN & BUTOVITSCH, fauna of clear-felled areas in pine forests, 744; EDWARDS, insect fauna of birds' nests, England, 748; FRANZ, significance of microclimates in the study of faunas of restricted areas, 908; GAMBLE, ecology of aquatic beetles of Presque Isle, Lake Erie, 953; GUNN, *Blatta orientalis*, temperature and humidity relations, 1057; HASE, *Cimex rotundatus* (Hem.), ecology in Puerto la Cruz, 1110; HENDRICKSON, subterranean insects of marsh grass (*Spartina michauxiana*), 1174; INVREA, Chrysids and their relation to flora, 1308; IONESCU, Protura, 1309, fauna of bark of a pear tree, 1310; KANO, zoogeographical correlation of butterfly distribution in Botel Tobago I. and adjacent territories, 1394; KUNTZE, xerothermic fauna of Podolia, Brandenburg, Austria and Switzerland, 1539; LARSEN, *Aphelocheirus aestivalis* (Hem. Naucor.), 1587; LATHROP & NICHOLS, *Rhagoletis pomonella* (Dipt. Tryp.), 1589; LEBEDEV & SAVENKOY, biocoenosis of the pine forest, Russia, 1603; LINDROTH, effect of climate on insect fauna of Iceland, 1650; NADIG, ecology of Orthoptera of Graubünden, Switzerland, 1979; NASH, *Glossina morsitans* (Dipt.), relation to evaporation rate, 1986; PICKLES, *Tomaspis saccharina* (Hem. Cerc.), ecology, Trinidad, 2203; RABELER, fauna of the Goldenitz Moor in Mecklenburg, 2290; SHANNON, environment and behaviour of some Brazilian mosquitos, 2561; STARK, Scolytids and different types of forest they infest, 2666; STEINBÖCK, insect fauna of the eternal snows, 2675; STEPHENSON, TANDY & SPENDER, insect fauna of Great Barrier Reef, 2684; UVAROV, effects of climate on insects, 2893; WADLEY, *Toxoptera graminum* (Hem. Aphid.), 2952; WARNECKE, meteorological measurements in zoogeographical investigations, 2974; WERNER, fauna of Carinthian moors, 3010; WHEELER, insect fauna of desert environments, 3020; ZUMPT, ecology of Coleoptera of N. Brandenburg heathland, 3125.

Hydrobiology.

Marine insect fauna of Plymouth, 1; BENICK, list of halophilous and halobiotic Coleoptera found in Germany, 227, salt-water bugs of Oldeslohe, Holstein, 228; EGGLETON, profundal

bottom fauna of certain fresh water lakes, U.S.A., **762**; GAMBLE, aquatic beetles of Presque Isle, Lake Erie, **953**; HORWATH, aquatic Hemiptera of Lake Balaton, Hungary, **1279**; HUBAULT, insect fauna of the chalk springs of valleys of the Aisne and Marne, **1287**; HUTCHINSON, *Trichocorixa wallengreni, verticalis* (Hem. Corix.), in salt water, **1299**; IWATA, insect fauna of the Upper Kamogawa River, Japan, **1316**; KARL, thalassophilous Diptera, Germany, **1405**; KEMPER, insect fauna of the Holy Lakes in Westphalia, **1428**; LENZ, salt-water Chironomidae (Dipt.), **1613**; LOUVEL, insects useful and noxious to pisciculture in Madagascar, **1662**; LUTZ, animal life of thermal waters in Yellowstone National Park, **1692**; MAUVAIS, insect fauna of Lake Neuchâtel, Rameau de Sapin, Neuchâtel (2) **13** 1929 p. 44; (2) **14** 1930 pp. 15-16, 35-36 figs.; MÜHLEN & SCHNEIDER, insects of Lake Wirzjerw, Livonia, list, **1938**; PAGAST, Chironomidae of the bottom fauna of Usma Lake in Kurland, **2105**; PEARCE, aquatic Coleoptera of Hartlebury Common, Proc. Birmingham N.H. Soc. **16** pp. 19-37, map; RAWSON, bottom fauna of Lake Simcoe, **2316**; SELIGO, bottom fauna of Marien Lake, Germany, **2552**; STADLER et al., insects of marshes and pools in S. Germany, **2659**; THIENEMANN, deep water Chironomids (Dipt.) of N. German lakes, **2795**; salt-water Diptera of Oldesloe, Holstein, **2796**; THORPE, insects inhabiting saline waters of Californian deserts, **2805**.

Cavernicolous.

BONET, Collembola, **330, 331**; CHOPARD, cavernicolous Orthoptera of N. America, list, **501**; DENIS, Collembola, Italy, **672**; HARTUNG, fauna of caves compared with that of mine shafts, **1103**; JEANNEL, Coleoptera of N. America, list, **1337**; evolution of cavernicolous Coleoptera in Carpathians, **1338, 1341**, new Bathysciinae (Col. Silph.), Italy, Jugo-Slavia, **1339, 1340**; JOFFRE, *Aphaenops* sp. n. (Col. Carab.), **1352**; LENGERSDORF, cavernicolous fauna of Westphalia, **1611**, insects of caves in Saxony, Mitt. Höhlen-u. Karstf. **1931** pp. 82-84; MALLASZ, new Coleoptera, Siebenbürgen, **1727, 1729**; MÜLLER, 100 years entomological research in Venetian caves, **1953**, new Coleoptera, **1954, 1955**; NOWIKOFF, insects of Skelja caves in Crimea, **2050**;

PRETNER & STRASSER, insects of caves of N. Frioula, Italy, Mitt. Höhlen-u. Karstf., Berlin **1931** pp. 84-90; REMY, feeding habits of cavernicolous Orthoptera, **2348**; SILVESTRI, Campodeidae, Bulgaria, new spp., **2594**; VALENTINE, new Trechinae (Col. Carab.), **2896**.

Phenology.

BARTENEFF, phenology of Russian Odonata, **169**; BERGMANN, Lepidoptera in Thüringia, **249**; BLATHWAYT, first appearance of insects in Dorset during 1930, Proc. Dorset Nat. Hist. Archaeol. Soc. **52** pp. 139-147, 151; FARQUET, *Locusta migratoria* (Orth.), swarming in Valois, **841**; GLENN, temperature accumulations as an index to phenology of insect pests, **992**; KALMYKOV, *Anopheles maculipennis*, Russia, **1387**; MATHEY-DUPRAZ, swarming of various insects in Switzerland, Rameau de Sapin, Neuchâtel (2) **8** 1924 pp. 20-22; PICTET, phenology of Lepidoptera in the Swiss National Park affected by continuous bad weather, **2205**; [REUTER], insects in Finland, Bidrag Finl. Nat. Folk **83** 1931 no. 8 pp. 52-54; SCHÜTZE, German Microlepidoptera, **2516**; STICHTER, *Popillia japonica* (Col. Rutel.), **2692**.

Insects, Plants and Flowers.

AMSEL & HERING, leaf-mining insects of Palestine, **55**; BACHMANN, insects visiting roses, Germany, **113**; CARMIN & SCHEINKIN, insects feeding on *Ficus sycomorus*, Palestine, **468**; COLE, *Typha* insects and their parasites, N. America, **550**; COLEMAN, *Lissopimpla semipunctata* (Hym. Ichn.), fertilising orchids, **551**; FRISON & HOTTES, Aphids and their food-plants, Illinois, **1282**; FRITSCH, flowers visited by insects in Steiermark, **919**; HERING, miners in aquatic plants, **1184**, leaf-mines, **1187, 1188**; HINGSTON, *Papilio*, pollen on wings, **1226**; HOFFMEYER, food-plants of Callimomidae (Hym.), **1249**; HOOPER, insects visiting fruit blossoms, **1266**; ISSEL, large numbers of insect visitors to flowers of *Cirsium arvense*, Bolzano, Italy, **1313**; KUROCHKIN, Bombidae and pollination of clover, **1541**; LAHILLE, nest of *Pseudomyrma fiebrigi* (Hym. Form.), in thorns of *Acacia cavenia*, **1572**; LINDROTH, list of flowers visited by Iceland insects and list of their food-plants, **1650**; MALLOCH, insects visiting late-blooming

flowers, Scot. Nat. no. 188 p. 43; MITTERBERGER, *Nepticula* spp. (Lep. Tineid.) food-plants in Austria, 1898; NAKAYAMA, food-plants of Korean Coccidae, 1983; NEISWANDER, original food-plants of American maize insects, 2008; PARK, relation of Coleoptera to plants for food and shelter, 2121; PHIPPS, catalogue of insects injurious to blueberry and huckleberry in all parts of world, 2171; POULTON, pollination of Australian orchids by male Ichneumonid, 2251; RICHARDS, insects fertilising *Orchis maculata*, England, 2360; SATTERTHWAIT, food-plants of N. American *Sphenophorus* (Curc.), 2463; SCHÜTZE, food-plants of German Microlepidoptera, 2516; SCOTT, Coleoptera of Euphorbias and Tree-Lobelias in Abyssinia, 252; SWEZEY, insects of native forest trees in Olinda Forest on Maui, Hawaii, 2722; TAKAHASHI, food-plant catalogue of Formosan Aphids, 2735; WALDRON, insects as pollen carriers, Science 73 p. 703; WERNER, insects visiting flowers in Carinthia, 3010.

Feeding Habits.

APEL, *Cerceris rubida* (Hym.), list of prey found in nests, 82; ARNDT, beetle larvae feeding on sponges, 90; BALDUF, carnivorous Lepidoptera, 125; BRIGHENTI, larvae of *Anopheles maculipennis*, 381; CARTWRIGHT, *Cerceridae* (Hym.) storing Buprestidae (Col.), 479; HASE, *Basilia bellardii* (Dipt. Nycterib.), 1108; HOBBS, prey of various British Diptera, 1230, 1231, 1232, 1233; HULKKONEN, *Bombus* spp. (Hym.) feeding on secretion from Aphid cornicles, 1299; JACKSON, *Glossina swynnertoni* (Dipt.), 1317; MICHALK, *Troilus luridus* (Hem.), process of feeding on prey, 1875; POULTON, prey of British Asilidae (Dipt.), 2250; REMY, feeding habits of cavernicolous Orthoptera, 2348; SMITH & POOS, *Empoasca* spp. (Hem. Jass.), 2623; VOGEL, *Atrichopogon infuscus* (Dipt. Ceratop.) feeding on wings of *Stauropus fagi* (Lep.), 2939; WEBER, *Trialeurodes vaporariorum* (Hem.), 2993.

Galls.

DIEUZEIDE, galls made by Aphids, with their biology, 680; DOCTERS VAN LEEUWEN, aetiology of galls, Handel derde Nederl.-Ind. Natuur. Congr. Buitenzorg 1924 pp. 309-318; VAN

DRIESSCHE, Cynipid galls on *Quercus pedunculata*, Yugoslavia, 725; HALL, list of galls from Hampshire and Dorset, England, 1075; HILLE RIS LAMBERS, *Astegopteryx* spp. n. (Aphid.) on *Styrax*, 1221; JOMAN, gall insects of Holland, 1384; MONZEN, Japanese Cynipidae and their galls, 1915; MOSZYNSKA, list of galls of Hel peninsula (Poland), 1933; TROTTER, gall-forming insects of Antilles, 2847; ZWEIGELT, galls caused by *Tetraneura* and *Schizoneura* (Aphid.), 3131.

Social Life.

IMMS, evolution of social organisation, 1302; LAMEERE, philosophy of social life of insects, 1583; REBEL, biological importance of larval societies (Lep.), 2324.

Termite Life.

BURGEON, 435; HEATH, termite caste development, 1134; IMMS, caste production, 1302; WEYER, differentiation of castes in termites (Isopt.), 3016.

Bee Life.

BETTS, regulation of warmth and oxygen content in bee-hives, 265; DUNHAM, hive temperatures for each hour of a day, 733; HÖHNEL, biology of bee swarms, 1255; IMMS, social bees, 1302; KELLOGG, *Apis indica peroni*, habits, 1427; MALYSHEY, *Xylocopa* spp., habits, 1741; NOLL, *Halictus* spp., 2043; RAYMENT, *Halictus raymenti*, 2319; ROSCH, division of labour in the bee state, 2399.

Ant Life.

COMBES, *Formica* spp. carrying their larvae about by night, 562; EHRHARDT, division of labour in *Myrmica* and *Messor* spp., 763; EIDMANN, foundation of colonies, 765; GREMPPE, ants as fire-brigade, 1028; HASKINS, *Euponera gilva* var. *harnedi*, 1114; IMMS, polymorphism and caste production, 1302; MCKEOWN, ants and Aphids, Austr. Mus. Mag., Sydney 4 pp. 175-177, 1 fig.; STÄGER, effect of perfumes and plant odours on ants, 2660, *Formica rufopratensis*, discovery and transport of booty, 2661; STEINER, temperature in ants' nests, 2676; VERHAGEN, *Lasius fuliginosus*, 2917; WASMANN, ant mimicry, 2982, democracy among ants, 2983; WATERHOUSE, ants tending butterfly larvae, 2986; WERDER, list of ants found

with Aphids at Basle, 3007a; WOLFF, biological notes on some German ants, 3072.

Myrmecophily.

BORGMEIER, new Borboridae (Dipt.), 340, new ecitophilous Staphylinidae, Brazil, 344; BRUCH, new Coleoptera, Brazil, Argentina, 394, 395; KLEINE, Brenthidæ (Col.), 1458; REICHENSBERGER, hosts of some Histeridae (Col.), 2337.

Symbiosis.

ASCHNER, symbiotic bacteria of Pupipara (Dipt.), 99; COUCH, *Septobasidium retiforme* symbiotic with *Aspidiotus osborni* (Hem. Coccid.), 587; GEORGEVITCH, symbiotic flagellates in Jugoslavian termites, 975; KOCH, symbiotic mycetoma in *Silvanus surinamensis* (Col. Cucuj.), 1487; LESNE, *Lyctoderma testacea* symbiotic with *Apate monachus* (Col.), 1625; MAHDHASSAN, microorganisms of red and yellow lac insects, 1712; MARCHAL, symbiosis in Aphids, 1751; PICARD, commensals of *Biorhiza pallida* (Hym. Cynip.), 2200; PIERANTONI, *Silvanus surinamensis* (Col. Cucujid.), origin and development of symbiotic organs, 2209; RIES, symbiotic adaptation in lice and Mallophaga, 2365, 2366; ŠULC, *Margarodes* sp. (Hem. Coccid.), intracellular, hereditary symbionts, 2712, intracellular symbiosis in Fulgoridae (Hem.), 2713.

Instincts, Tropisms.

ALLARD, *Photinus pyralis* (Col. Lamp.), photoperiodism and its relation to evening twilight, 47; APTEL, orientation in Hymenoptera, 80; BALFOUR & CARMICHAEL, *Tenebrio molitor* (Col.), negatively phototropic, 126; BARNES, *Aphaenogaster fulva* (Hym. Form.), body posture and geotropic response, 159; BARNES & SKINNER, *Aphaenogaster*, progressive increase in geotropic response, 160; BELING, memory of time in bees, 217; BERTHOLF, *Apis mellifica*, reactions to light, 258; BODENHEIMER, thermotropic orientation and activation in insects, 314; BRECHER, *Periplaneta americana*, orientation, 373; CLARK, *Dineutes assimilis* (Col. Gyrinid.), orientation and fright reaction, 520; CROZIER & STIER, *Malacosoma americana* (Lep.), *Tetraopes tetraophthalmus* (Col.), geotropic orientation, 604; FRAENKEL, *Schistocerca gregaria* (Orth.),

reactions to radiant heat, 901; HECHT, thermotropism of ovipositing mosquitos, 1140; IMMS, beginnings of social instincts, 1302; JANDA, *Anthrenus museorum* (Col. Derm.), phototaxis in larva and imago, 1327; KOZHANTSHIKOV, *Lochmaea capreae* (Col. Galeruc.), death feigning, 1512; KRIJGSMAN & WINDRED, *Stomoxys calcitrans*, *Lyperosia exigua* (Dipt.), physiological stimuli and choice of food, 1519, 1520; LAAKE, PARMAN, BISHOPP & ROARK, chemotropic responses of *Musca domestica*, *Lucilia* spp. and *Phormia regina* (Dipt.), 1562; DE LÉPINEY, *Schistocerca gregaria*, orientation of gregarious movements, 1621; MOINDOO, tropisms of Coleoptera, 1706; MALHOTRA, Is a bee attracted to clover blossoms by odour? 1724; MARSHALL, chemotropic responses of certain insects to odour, 1773; MINKIEWICZ, *Bembex* (Hym.), mnemonic rhythm, 1891; MOLITOR, *Ammophila heydeni* (Hym.), paralyzing larval victims, 1906; NAKAZIMA, *Bombyx mori*, response to odours, 1984; RAIGNIER, orientation in ants, 2296, 2297; RAU, homing of various wasps, 2312; RAUSCHMAYER, optical orientation in homing bees, 2314; RIPLEY & HEPBURN, *Pterandrus rosa* (Dipt. Trypet.), olfactory reactions, 2369; DE SAINT-PÉRIER, *Elatér sanguineus* (Col.), thermotropism, 2441; SANTSCHI, *Tapinoma* (Hym. Form.), orientation, 2455; SCHMUCKER, bumble bees biting always into the right-hand side of flowers in search of honey, 2498; SCHULZ, *Notonecta glauca*, orientation to light and currents of water, 2515; STEHR, phototropism in aquatic Arthropods, 2673; VERLAINE, solitary bees, 2924, 2925; WARNKE, *Geotrupes silvaticus*, *vernalis* (Col.), sense of smell and orientation, 2978; WEBER, *Trialeurodes vaporariorum* (Hem. Aleur.), orientation in larva and adult, 2993; WILLRICH, phototropism and colour sense, 3064; WOJTUSIAK, *Pieris brassicae* (Lep.), orientation in larvae, 3069; YAGI, *Dixippus morosus* (Orth.), phototropism, 3090.

Senses.

HECHT & WOLF, *Apis mellifica*, visual acuity, 1141; ILSE, colour sense of butterflies, 1301; MURR, *Habrobracon juglandis*, sense of smell, 1972; WARNKE, sense of smell in *Geotrupes*, 2978.

Movement, Attitudes.

BARNES, *Aphaenogaster fulva* (Hym. Form.), body posture, 159; HASE, *Basilia bellardii* (Dipt. Nycterib.), orientation, movement, 1108, *Myodopsylla wolffsohni* (Siphon.), movement of larva, 1109; LUDWIG, *Pyrrhocris apterus* (Hem.), wing position, 1676; LUTZ, *Trigona* (Hym. Apid.), light controlling start of daily activities, 1691; MINKIEWICZ, *Bembex* (Hym.), orientation, 1891; WEBER, *Trialeurodes vaporariorum* (Hem. Aleur.), movements of larvae and adults, 2993.

Flight.

AVÉ LALLEMANT, SOERONO & SOEKARLA, *Anopheles* spp., flying radius, 112; DEANE, water beetles (Col.), 650; KLIGLER & MER, *Anopheles* long-range dispersion, 1467; KÖRTING, *Oscinis frit* (Dipt.), *Limothrips cerealium* and *Haplothrips aculeatus* (Thysanopt.), 1508; MARTINI, *Anopheles* spp., range of flight, 1783; POULTON, *Forficula auricularia*, Proc. Ent. Soc. Lond. 6 p. 10; RAU, night flight of diurnal butterflies, 2311; WEBER, *Trialeurodes vaporariorum* (Hem. Aleur.), method of flight, 2993.

Migration.

BERGMANN, migration in Lepidoptera, 248; BISHOP & HART, migration of mosquito larvae, 285; CURTIS, *Cosmosoma teuthras* (Lep. Synt.) at sea, Entomologist 64 pp. 138-139; T. D., immigrant Lepidoptera in Hastings district, Rept. Hastings and St. Leonards Nat. Hist. Soc. 1930-31 1931 pp. 8-14; DEAN, *Agrius convolvuli* (Lep.), analysis of certain records of migration, 647; GODFREY, migration of butterflies in Bangkok, J. Nat. Hist. Soc. Siam, Bangkok 8 p. 215; HAYWARD, insect migration in Argentina, 1125, 1127, 1128; JEAN-JEAN, migration of Odonata in France, 1336; LENZ, migratory Lepidoptera, 1615; PITMAN, *Polyspilota aeruginosa* (Mantid), *Euchloron megaera* (Sphing.), blown on to ship out of sight of land, Proc. Ent. Soc. Lond. 5 p. 84; ROGERS, migrating butterflies in Nairobi District, April, 1930, 2390; WALKER, insects at sea, 2962; WARNECKE et al., *Pyrameis cardui* (Lep.), migration in Central Europe, 2977; WILLIAMS, *Belenois mesentina* (Lep. Pierid.), migration in E. Africa, 3055.

Hibernation.

VAN EMDEN, *Cephalonomia quadridentata* (Hym. Beth.), 784; FAUVEL & MERCIER, hibernation of flies (Dipt.), Bull. Soc. linn. Normand. (8) 2 (1929) 1930 pp. 9-11; FENTON, *Pectinophora gossypiella* (Lep. Tin.) in Texas, 849; ÖRÖSI PAL, *Apis* (Hym.), 2096a; RAU, *Polistes* (Hym.), 2306; READIO, *Reduvius personatus* (Hem.), 2321.

Luminosity.

ALLARD, *Photinus pyralis* (Col. Lampyr.) photoperiodism and its relation to evening twilight, 47; BUGNION, *Pharusis delarouzei*, *Luciola lusitanica* (Col. Lampyr.), 426; HARVEY & STEVENS, *Pyrophorus* (Col. Elat.), maximum brightness of prothoracic light organs, 1106.

Sound Production.

FULTON, *Nemobius* (Gryll.), song habits, 933; KRAUSS, *Stethophyma fuscum* (Orth. Acrid.), Veröffentlich. Staat Stelle Naturschutz, Stuttgart 3 1926 pp. 128-131; MCCANN, *Lethama locusta* (Cicad.), mechanism of sound organs, 1694; REGEN, Orthoptera, 2326.

Sex Relations.

BRYK, pairing in Lepidoptera, 414; DAGUERRE, *Diloboderus abderus* (Col. Dynast.), mating habits, 633; DALLAS, Carabidae (Col.) mating with different species, 640; VAN EMDEN, *Cephalonomia quadridentata* (Hym. Beth.), pairing, 784; KLAUE, *Parnassius mnemosyne* (Lep. Pap.), pairing and the sphragis, 1454; LAIDLAW, copulation of drone and queen bee by artificial means, 1576; MINKIEWICZ, *Bembex* (Hym.), 1891; MUKERJI, *Phlebotomus argentipes* (Dipt.), copulation, 1951; PIOTET, *Lasiocampa quercus* (Lep.), pairing, 2204, 2207, 2208; POULTON, *Volucella bombylans* (Dipt.), positions of paired sexes, Proc. Ent. Soc. Lond. 5 pp. 67-68, *Aglais urticae*, epigamic behaviour, Proc. Ent. Soc. London 5 pp. 99-101; TAYLOR, a case of "assembling" in Phasmidae, 2765; WEBER, *Trialeurodes vaporariorum* (Hem. Aleur.), pairing, 2993.

Oviposition.

VAN EMDEN, *Cephalonomia quadridentata* (Hym. Beth.), 784; HASE,

Cimex rotundatus (Hem.), 1110; PICTET, *Lasiocampa quercus* (Lep.), oviposition, 2204, 2207, 2208; TOUMANOFF, *Carausius morosus*, effect of temperature and humidity on oviposition, 2331; WEBER, *Trialeurodes vaporariorum* (Hem.), 2993; ZAVADSKY, *Rhynchites* spp. ovipositing in leaf-roll of *Attelabus curculionoides* (Col. Curc.), 3102.

Parental Care.

GADEAU DE KERVILLE, *Pseudochelidura sinuata* (Dermapt.), 939.

Nests.

APTEL, *Halictus malachurus* (Hym. Apid.), 81; BISCHOFF, *Bombus melanurus griseofasciatus*, *separandus postzonatus*, 280; B. CHRISTENSEN, use of plaster of Paris in investigating nests of fossorial wasps and bees, 508; CRÈVECOEUR, *Oxybelus bipunctatus* (Spheg.), 598; DAVIDSON, *Crabro gracilissimus* (Hym. Spheg.), Bull. S. Calif. Acad. Sci., Los Angeles 30 p. 49; FRIESE, *Lestrimelitta limao* (Hym. Apid.), 918; GRANDI, *Tachysphex costai* (Hym. Spheg.), 1018; GUIGLIA, *Sceliphron spirifex* (Hym.), 1050; HICKS, use of abdomen in nest construction by bees, 1210, *Pseudomasaris edwardsii* (Hym. Vesp.), Bull. S. Calif. Acad. Sci. 30 pp. 23-29; HMMER, *Vespa crabro*, warmth in nests, 1223; LUCAS, *Eumenes coarctata* (Hym.), 1667; MALYSHEV, *Xylocopa* spp. (Hym. Apid.), 1741; MARCH, *Macrotermes barneyi* (Isopt.), 1749; MAYER, *Eumenes unguiculus* (Hym.), Mitt. schweiz. ent. Ges., Berne 15 p. 55 figs.; NOLL, *Halictus* spp. (Hym. Apid.), 2043; NORMAND, *Dorylus fulvus* (Hym. Form.), 2048; RAU, *Vespa germanica*, unusual nest, 2308, *Polistes* spp., 2309, 2310; RAYMENT, *Gnathoprosopis marianella* (Hym. Apid.), 2318, *Halictus raymenti* (Hym.), 2319; SCHWARZ, *Polybia occidentalis* (Hym.), 2523; STEINER, temperature regulation of nest of *Polistes gallica* (Hym.), 2677; VERGNE, *Thyreopus alpinus* (Crabron.), 2915, *Philanthus triangulum* (Hym.), 2916; VERLAINE, *Chartergus chartarinus* (Hym.), 2923.

Larval Cases, Cocoons.

GORTER, case-building of Trichoptera larvae, 1011; GUIGLIA, *Sceliphron spirifex* (Hym.), 1050; ROMAN, *Bruchus*

irresectus (Col.), 2395; UHLMANN, *Catagapetus nigrans* (Trichopt.), larval cases with chimneys, 2867; VAN DER MEER MOHR, *Hypophricoides dolichoderella* (Lep., Tin.), larval case, Misc. zool. sumat. 56 p. 1.

Parasitism.

BAKER, insect parasites of vertebrates and host phylogeny, Canad. Field Nat., Ottawa 45 pp. 189-191; CRÈVECOEUR, tendency to clepto-parasitism among Psammocharidae (Hym.), 599; ECKSTEIN, defensive reaction of insects to parasites, 743; MALYSHEV, *Xylocopa* spp. (Hym. Apid.), parasites, 1741; MUIR, critical point of parasitism and the law of Malthus, 1941; MÜLLER, *Mermis* parasites of insects, Z. Morph. Oekol. Tiere, Berlin 24 pp. 82-147, 34 figs.; ROBERTSON, position of Strepsiptera on hosts, 2378; SALT, effect on wasps of stylopization (Hym.), 2447; VOUGASSOVITCH, fight for possession of host in larvae of solitary ectoparasites, 2950.

Miscellaneous.

ALEXANDER, association of birds' nests with those of insects in Australia, 34; APTEL, methods of defence in Hymenoptera, 80; BAKER, nesting associations between birds and wasps, ants or termites in the Oriental region, 121; BRADLEY, *Lithohypoderma* (Dipt. Oestrid.), possible aquatic habits of larvae deduced from fossil remains, Prof. Pap. U.S. Geol. Surv., Washington, D.C. 168 p. 50; BURKILL, cricket-fighting (Orth. Gryll.), J. Siam Soc. Nat. Hist. 8 1930 suppl. pp. 119-120; ELTRINGHAM, pretence of stinging by *Ctenophora pectinicornis* (Dipt. Tipul.), Proc. Ent. Soc. Lond. 6 pp. 60-61; HOFKER, insect psychology, 1253; KITAKAMI, biology of Japanese Blepharoceridae (Dipt.), 1451; POULTON & others, association of birds' nests with nests of insects, 2253; SCOTT, use of hind legs as weapons by *Deporaus betulae* (Col. Curc.), 2531; SMITH, pumping habits of Aphids, Science, N.Y. 73 p. 364; STERZINGER, behaviour of house-fly in a thunderstorm, 2689.

GEOGRAPHY OR FAUNISTIC.

In this section references are given to all species recorded from Arctic and characteristic island faunas, but in the other divisions reference is made only to papers dealing with monographs and revisions or giving information of faunistic value.

General.

STILES & NOLAN, key catalogue of bat parasites, 2693.—*Coleoptera*: DE BASILEWSKY, additions and corrections to Csiki's Carabidae in *Coleopt. Catal.*, 177; CSIKI, Serropalpidae, catalogue, 606, Harpalinae V (Carab.), catalogue, 605; DALLA TORRE & VOSS, Atelabinae, Apoderinae (Curc.), catalogue, 639; DIDIER, Lucanidae, catalogue, 678; HETSCHKO, Colydiidae, catalogue, 1194, Phalacridae, Mycetophagidae, Tretorhoracidae, Jacobsoniidae, Cavi-coxumidae, Gnostidae, catalogue, 1195, Cossyphodidae (suppl.), Cucujidae, Thorictidae (suppl.), 1196; KORSCHESKY, Coccinellidae I, catalogue, 1506; LAPOUGE, Carabinae III, 1584; NETOLITZKY, geographical races of winged *Bembidium* (Col. Carab.), 2012, Harpalinae, corrections to Csiki's catalogue, 2014; OHAUS, Scarabaeidae (Euchirinae, Phaenomerinae, Rutelinae), catalogue, 2075; SCHENKLING, Niponidae, Sphindidae, Monommidae, Aspidiphoridae, Sphaeritidae, catalogue, 2479; SCHENKLING & MARSHALL, Curculionidae: Eremninae, Leptopinae, Tanyrrhynchinae, Cylindrorrhinae, Thecesterninae (suppl.), Rhytirrhinae (suppl.), Rhyparosominae (suppl.), Dinomorphinae, Somatodinae, Amycterinae, Gonipterinae, catalogue, 2480; VOSS, Bytiscini (Col. Curc.), monograph, 2945; WEISE, Galerucinae, catalogue, 3004. — *Hymenoptera*: ARENS, *Apis mellifica*, distribution and original home, 86; COMPERE, *Coccyphagus* (Euloph.), revision, 563.—*Lepidoptera*: BRYK, Baroniidae, Teinopalpidae, Parnassiidae, catalogue, 412, Pericopinae, catalogue, 413; DALLA TORRE, Cymatophoridae, 635, Cossidae, 636, Epiplemididae, Uraniidae, 637, catalogues; DALLA TORRE & STRAND, Lepidabelidae, catalogue, 638; DRENOWSKI, Does proximity of sea influence altitude distribution of *Lepidoptera* in Bulgaria? 722; GAEDE, Satyridae, 940, Drepanidae, 941, Perophoridae (Mimalonidae), 942, catalogues; HULSTAERT,

Danaidinae & Tellervinae, catalogue, 1291; KUZNETZOV, distribution of Pieridae (Asciidae) and their food-plants, 1553; SHEPARD, Pyrginae (Hesp.), catalogue, 2570; STICHEL, Riodininae III (Erycin.), catalogue, 2691; STRAND, Heterogynididae, catalogue, 2700.—*Diptera*: AUBERTIN, *Hemipyrellia* (Caliph.), revision, 103; BARANOFF, *Carcelia* (Tach.), key, 145.—*Hemiptera*: DEL GUERCIO, *Anuraphis* (Aphid.), revision, 657.—*Odonata*: BARTENEFF, *Pantala flavescens*, world distribution, 172, *Sympetrum* spp., 173; LIEFTINCK, *Epophthalmia*, revision, 1641.—*Orthoptera*: BOLIVAR Y PIETAIN, Eumastacinae (Acrid.), monograph, 323, 324; KARNY, geographical distribution of Indo-African and Mediterranean Gryllacridae, 1411.

Arctic, Antarctic.

Insecta: ENDERLEIN, fauna of South Georgia, 787; GOETGHEBUER, two Chironomids from Spitzbergen (Dipt.), *Boll. Zool.*, Naples 2 pp. 135-136; GORBUNOV, insects from Novaya Zemlya, 1009; LINDROTH, fauna of Iceland, 1650.—*Coleoptera*: STARK, Scolytidae of the forests of Chibiny, Lapland, 2668.—*Hymenoptera*: HELLEN, Cynipidae of Iceland, list, 1156; ROMAN, Ichneumonidae of Iceland, list, 2394.—*Lepidoptera*: SUOMALAINEN, N.W. Finland, list, 2715.—*Diptera*: COLLIN, Greenland, 557; EDWARDS, Nematocera from Greenland, 752; RINGDAHL, Iceland, new *Diptera*, 2368.—*Hemiptera*: EKBLOM, Sarek district, Lapland, annotated list, 769.—*Psocoptera*: ARNDT, Arctic Region, 89.—*Orthoptera*: MIRAM, Arctic, list, 1894.—*Collembola*: BROWN, *Collembola* from Lapland, 390.

Insular (including New Zealand).

Admiralty Is. *Coleoptera*: SCHWARZER, *Nemophas* sp. n. (Lamiid.), 2525.

Canary Is. *Hemiptera*: ENDERLEIN, *Aneurus* sp. n. (Aradid.), 794.—*Neuroptera*: NAVÁS, *Hemerobius* sp. n., 1996a.—*Ephemeroptera*: NAVÁS, *Baetis* sp. n., 1996a.

Caroline Is. *Orthoptera*: GÜNTHER, two new Phasmidae, 1045a; SJÖSTEDT, *Valanga* sp. n. (Acrid.), 2605.

Campbell I. *Insecta*: ENDERLEIN, 788.

Easter I. *Coleoptera*: AURIVILLIUS, *Pentharthrum* sp. n. (Curc.), 107.

Fiji. *Coleoptera*: BRYANT, *Demotina* (Eumolpid) spp. n., 410; DEANE, new Trichopterygidae, 648; DIDIER, *Figulus* sp. n. (Lucan.), 678; FLEUTIAUX, new Eucnemidae, 889; LEA, new spp., 1595-1597; MARSHALL, *Cranopoeus* (Curc.) spp. n., 1770; SICARD, *Scymnus* sp. n. (Coccin.), 2583; VAN ZWALUWENBURG, *Anchastus* sp. n. (Elat.), 3130.—*Hymenoptera*: GRANDI, *Ceratostenes* sp. n. (Agaon.), 1020.—*Lepidoptera*: MEYRICK, new spp., 1862.—*Dermaptera*: CAUDELL, Forficulidae from Fiji, 484.—*Orthoptera*: CAUDELL, Fiji, 484.

Hawaii. *Insecta*: SWEZEY, new records from Molokai, 2721, records of immigrant insects for 1929 and 1930, 2723; WILLIAMS et al., handbook of insects and other invertebrates of Hawaiian sugar-cane fields, 3056.—*Coleoptera*: PERKINS, new spp., 2151, 2152; VAN ZWALUWENBURG, *Anchastus* sp. n. (Elat.), 3130.—*Diptera*: ALDRICH, new spp., 19.—*Psocoptera*: BANKS, new spp., 142.—*Thysanura*: SILVESTRI, *Lepidocampa* sp. n., 2592.

Juan Fernandez I. *Coleoptera*: ANDREWES, new Carabidae, 69; AURIVILLIUS, new Curculionidae, 107; JORDAN, *Opisolia* sp. n. (Col. Anthr.), Nat. Hist. Juan Fern. 3 (Zool.) p. 479.

Lord Howe I. *Coleoptera*: DEANE, new Trichopterygidae, 648.—*Hemiptera*: MUIR, *Ugyops* sp. n. (Hem. Delph.), 1945.—*Isoptera*: HILL, *Calotermes* spp. n., 1218.

Macquarie I., S. Pacific. *Insecta*: ENDERLEIN, 789.

Marquesas Is. *Coleoptera*: MARSHALL, new Curculionidae, 1770.

New Caledonia. *Coleoptera*: DEANE, new Trichopterygidae, 648.—*Hemiptera*: MUIR, *Tarberus* sp. n. (Cixiid.), 1945.

New Hebrides. *Hemiptera*: MUIR, new spp., 1945.

New Zealand. *Coleoptera*: MARSHALL, *Catoptes* spp. n. (Curc.), 1771.—*Hymenoptera*: MEYER, Apidae, 1860; SMITH, ants of Mt. Egmont, 2631.—*Lepidoptera*: MEYRICK, new spp., 1865, 1866; PHILPOTT, new spp., 2170.—*Diptera*: COLLIN, new Empidae, 558; ENDERLEIN, *Aphoepes* sp. n. (Taban.), 786; INGRAM & MACFIE, *Ceratopogonidae*, 1306; KRÖBER, *Tabanidae*, 1527; MALLOCH, *Calyptrate* Dipt., pts. V, VI, 1735, *Trypetidae*, *Chloropi-*

dae, 1736, *Empidae*, 1737.—*Dermaptera*: CAUDELL, 484.—*Orthoptera*: CAUDELL, 484.

Norfolk I. *Coleoptera*: DEANE, new Trichopterygidae, 648.

Oceania. *Orthoptera*: GÜNTHER, Phasmid fauna, 1045a.

Samoa. *Coleoptera*: MARSHALL, Curculionidae, 1768.

Palaeartic Region, collectively.

Coleoptera: GANGLBAUER, *Zabrus* (Carab.) revision, 956; PUEL, *Anisodactylus* (Carab.), key and list, 2283; SJÖBERG, *Proteinus* (Staph.), revision, 2602; SUMACOV, *Mylabrin* (Meloid.), catalogue, 2714a; VOSS, *Nemonyx* (Curc.), revision, 2944; ZIMMERMANN, *Hydroporus* (Dytisc.), monograph, 3115.—*Hymenoptera*: FAHRINGER, *Bracconinae*, revision (part), 829; GUSSAKOVSKIĖ, *Priocnemis* (Psammoch.), revision, 1059, *Gastrosericus* (Spheg.), revision, 1060, *Ceropales* (Psamm.), revision, 1061, *Ammoplanus* (Spheg.), revision, 1062; MEIER, *Anomaloni* (Ichn.), revision, 1822; POPOV, *Psithyrus* (Apid.), 2245; SCHMIEDEKNECHT, *Phygadeuonini*, revision, 2492.—*Lepidoptera*: BOLLOW & GAEDE, *Rhopalocera* (suppl.), catalogue, 326, 944; DRAUDT, *Épicopeidae*, *Syntomidae*, *Arctiidae*, *Noctuidae*, catalogue (suppl.), 718; GAEDE, *Hesperiidae* (suppl.), 943; REISS, *Zygaenidae*, catalogue (suppl.), 2342.—*Diptera*: CZERNÝ, *Neottiophilidae*, revision, 629; HENDEL, *Agromyzidae*, revision, 1170, *Trypetidae* (suppl.), 1171; MARTINI, *Culicidae*, revision, 1780; PARAMONOW, *Promachus* (Asilid.), key, 2114, *Amictus*, *Eclimus*, *Lomatia* (Bombyl.), keys, 2115, distribution of *Usia* (Bombyl.), 2116; PLESKE, *Chloromyia*, *Beris*, *Actina* (Strat.), keys, 2233; SACK, *Syrphidae*, revision, 2437; STACKELBERG, *Cinxiinae* (Dipt. Syrphid.), revision, 2655, *Dolichopodidae*, revision, 2657; ZIMIN, *Hystriomyia* (Tach.), revision, 3112.—*Siphonaptera*: WAGNER, supplement to catalogue, 2958.—*Hemiptera*: BODENHEIMER, *Kermes* (Coccid.), list, 311.—*Odonata*: BARTENEV, *Cordulegaster*, revision, 170.—*Orthoptera*: BEIBIENKO, *Bryodema* (Acrid.), monograph, 206; SALEI, *Platypterna* (Acrid.), revision, 2444; TARBINSKY, *Gomphoceris*, *Dasyhippus* (Acrid.), revision, 2750; UVAROV, *Aeropus* (Acrid.), revision, 2890.

Europe, collectively.

Coleoptera: GANGLBAUER, *Podistra*, revision, 955; PLAVILSTSHIKOV, *Cerambycini*, revision, 2224; SCHEERPELTZ, *Megarthus* (Staphyl.), key, 2478.—*Hymenoptera*: ENSLIN, *Diprion* (Tenth.), 800; HOFFMEYER, *Callimomidae* (contd.), key, 1249; MENOZZI, *Epimyrma* (Formic.), revision, 1839; MERCET, *Prospaltella* (Encyrt.), key, 1845, *Coccophagus*, key, 1849.—*Lepidoptera*: DUPONT, intrusion of Asiatic *Lepidoptera*, 735; SKALA, *Nepticulidae*, list, with distribution, 2607.—*Diptera*: NITZULESCU, *Phlebotomus*, key, 2035.—*Hemiptera*: HAUPT, *Cercopidae*, 1117.

North Europe and Siberia.

Insecta: HELLÉN, list of insects new to Finland, 1155; SJÖSTEDT et al., insect fauna of Abisko National Park, Sweden, 2606; WNUKOWSKY, suppl. list of insects from Omsk district, 3067, 3068.—*Coleoptera*: DMITRIEV, *Scarabaeids* of Penza, C. Russia, revision, 686; HANSEN, *Hydrophilidae*, Denmark, 1081; JANSSON, *Coleoptera* new to Swedish fauna, 1333; KROGERUS, *Catops*, revision of Danish, Norwegian, Swedish and Finnish spp., 1535; PALM, *Coleoptera* new to Sweden, 2109; SAALAS, distribution of *Scolytidae* in Finland, 2436; SHCHEGOLEVA-BAROVSKAYA, *Mordellidae*, Ingria, 2565.—*Hymenoptera*: BIRULA, *Vespula*, distribution, 275; KARAWAJEW, ant fauna of Sweden, 1400, ants of Jakutsk, list, 1403; KISSELEWA, ants from Ussuri Region, 1449; MEIER, *Ichneumonidae* from Ussuri, 1821; PULKINEN, *Sphegidae* of Finland, keys, 2284.—*Lepidoptera*: BENANDER, new to Sweden, 223; EKSTRÖM, Gotland, Sweden, 771; FILIPJEV, *Peronea* (Tortr.), E. Siberia, 863; HOFFMEYER, list of moths from Bornholm I., Denmark, 1251, 1252; JOHN, species new to Lettland, 1356; KOZHANTSCHIKOV, *Macrolepidoptera* of Minussinsk district, 1511; KURENTZOV, vertical distribution of *Lepidoptera* in Sikhota Alin Mts., 1540; MOLTRECHT, *Macrolepidoptera* from Ussuri and Amur districts, list, 1908.—*Diptera*: FREY, *Empidae* and *Dolichopodidae* new to Finland, 911; PLESKE, *Stratiomyidae*, *Erinnidae*, *Coenomyiidae*, *Oestridae* from Ussuri, 2233; STACKELBERG, *Dolichopus* from E. Siberia, 2656.—

Hemiptera: JANSSON, *Heteroptera* of Oland, Gotland, Fårön, Gotska Sandön, 1332; KIRICHENKO, *Cryptocerata* from Ussuri, 1446; MORDVILKO, *Aphids* of Yakutz, 1916; SAMKO, *Tobolsk* district, list, 2453.—*Neuroptera*, *Trichoptera*: LACKSCHEWITZ, *Esthonia*, list, 1569, 1570.—*Odonata*: ANDER, of Bornholm, Denmark, 59, Sweden, list, 61; BARTENEF, Russian *Odonata*, 169.—*Dermaptera*: BEĖ-BIENKO, of Omsk, 208.—*Orthoptera*: ANDER, of Bornholm, Denmark, 58, Sweden, list, 60; BEĖ-BIENKO, *Orthoptera* of Omsk, 208, *Semipalatinsk*, 210.—*Protura*: TUXEN, Denmark, 2854.

British Isles.

Insecta: Marine insects of Plymouth, 1; FOSTER, distribution of insects in Ireland, 900; HIGNETT, Severn valley, list, Rec. Bare Facts, Shrewsbury 40 pp. 16-32.—*Coleoptera*: BALFOUR-BROWNE, aquatic spp. of Isle of Wight, 127; BEARE, additions to catalogue of *Coleoptera* of Br. Isles, 191; BLAIR, Scilly Is., 291; DONISTHORPE, recent additions to British fauna, 696; EDMONDS, *Scopaeus* (Staph.), 747.—*Hymenoptera*: BENSON, *Athalia* (Tenth.), key, 236, 237; BUTTERFIELD & FORDHAM, *Aculeates* of Yorkshire, 445; HAINES, *Ichneumonidae* of Dorset and Hampshire, list, 1071; TUTTON, annotated list of *Hymenoptera* of Eton district, 2853.—*Lepidoptera*: ADKIN, moths of Eastbourne, list, 9; BOLAM, Northumberland and Eastern Borders, annotated list, 322; FASSNIDGE, additions to list from Hampshire and Isle of Wight, 845; FISHER, annotated list of *Lepidoptera* of Eton district, 872; TURNER, additions to Tutt's list of *Noctuidae*, 2852; WILD, local variations in the Hebrides, 3042.—*Diptera*: AUDCENT, *Diptera* of Bristol (cont.), 104; COLLIN, *Verrallia* (Pipunc.), 560; GOFFE, *Tabanidae*, 1003.—*Neuroptera*: HALLETT, Glamorgan, Trans. Cardiff Nat. Soc. 62 pp. 67-69.—*Hemiptera*: BUTLER & PALMER, Hertfordshire, 443; MARRINER, *Aleurodes* of Cumberland, 1767.—*Odonata*: NORTON, Glamorgan, Trans. Cardiff Nat. Soc. 62 pp. 73-75.—*Orthoptera*: HALLETT, Glamorgan, Trans. Cardiff Nat. Soc. 62 pp. 70-72.—*Collembola*: WOMERSLEY, Epping Forest, annotated list, Essex Nat. Stratford 23 pp. 116-120.

France.

Coleoptera: BARTHE, keys to French beetles (contd.), 175; BARTHE & TAREL, Cicindelidae, keys, 176; BONNAMOUR, Longicornia of Lyons district (part), 332; BOUGERIE, *Coleoptera* of dept. of Ardennes, list, 354; DU BUYSSON, Elateridae, keys, 450; FALCOZ, Clavicornia (part) of Lyons district, 831, Cryptophagidae, keys, 832; MAZETIER, Calvados, list, 1818; PORTEVIN, Polyphaga, 2249. — *Hymenoptera*: BENOIST, dept. of Ardennes, list, 233, *Osmia* (Apid.), 234. — *Lepidoptera*: D'ALDIN et al., Gironde, list, 14; CARVEL, dept. of Ardennes, list, 480. — *Diptera*: MERCIER, Phoridae, Calvados, list, 1850. — *Trichoptera*: MARTIN, 1778. — *Neuroptera*: MARTIN, 1778. — *Hemiptera*: BRUNETEAU, Normandy, 405; GOUX, *Eriococcus*, list, 1013; PÉNEAU, *Gerris*, *Acompus*, keys, 2146; POISSON, Normandy, list, 2237. — *Psocoptera*: BADONNEL, N. and N.E. France, list, 115; MARTIN, 1778. — *Plecoptera*: MARTIN, 1778. — *Ephemeroptera*: MARTIN, 1778. — *Odonata*: MARTIN, 1778.

Central and Eastern Europe.

Coleoptera: BUCKING, first supplement to 2nd edn. of Heyden's "Die Käfer von Nassau und Frankfurt," 420; HAINMÜLLER, additions to *Coleoptera* of Mecklenburg, 1072; HEYROVSKÝ, Czechoslovakia, catalogue, 1205; JACOBS, Harz Mts., list, 1320; KARPÍŃSKI, Scolytids of Białowieża virgin forests, 1415; MARCU, of Bukovina, list, 1754-1756, spp. new to Bessarabia, 1757; MÜLLER, *Harpalus* (Carab.), revision, 1957; PEETZ, Staphylinioidea, Westphalian mountains, list, 2142; PLIGINSKY, Crimea, list, 2234; ROUBAL, Cicindelidae—Histeridae, of Czechoslovakia and Carpathians, catalogue, 2409; SEMENOV-TIAN-SHANSKIĬ & MEDVEDEV, Russian Ochodaeina, revision, 2553; SPESIVTZEY, bark-beetles of European Russia except Crimea and Caucasus, key, 2649; SSAVTSHENKO, Scarabaeidae of Volhynia, 2654; TENENBAUM, spp. new to Poland, 2769; TRAPPEN, Württemberg, list, 2840; VAN DER WIEL, *Choleva* (Silph.), Holland, 3034. — *Hymenoptera*: HARTIG, *Psenulus*, Germany, key, 1102; SCHMIEDEKNECHT, Anomaloniinae, Germany, 2491. — *Lepidoptera*: ALEXINSCHI, Macrolepidoptera of N.

Bessarabia, 35; AMSEL, Microlepidoptera of Mark Brandenburg, 54; BILOSOR, Podolia, 273; GUHN, *Zygaena*, Berlin district, 1047; HARTIG, Venezia Tridentina, additions, 1095, 1096, 1098, 1099; OSTHELDER, Geometridae (part), S. Bavaria, 2102; RAEBEL, Macrolepidoptera of Upper Silesia, 2293; SKALA, Austria-Hungary, additions, 2610; UFFELN, Microlepidoptera of Westphalia, list, 2865; VORBRODT, Canton Tessin and Misox Valley, Switzerland (cont.), 2940, 2941. — *Diptera*: BASTIN, Ephyridae, Belgium, 178; BELANOVSKIĬ, Tachinids from Kiev Govt., 216; GOETGHEBUER, Empidae, Belgium, 1002; KARL, Amrum I., Germany, 1406; SPEISER, Trypetidae, E. Prussia, list, Schr. phys.-oekon. Ges. Königsberg 67 1930 no. 1 pp. 95-99; SUSTER, Tachinidae of Dobruja, list, 2717, Anthomyiidae of Rumania, list, 2718. — *Hemiptera*: GROSS-HEIM, distribution of Heteroptera in Ukraine, 1042; HILLE RIS LAMBERS, Aphidae, Venezia tridentina, list, 1220, Aphidae, Netherlands, 1222; HORVATH, Lake Balaton, Hungary, 1279; KIRICHENKO, Coccidae of Ukraine and Crimea, 1448; MÜLLER, Heteroptera of Harz Region, 1958; SCHOLZ, bugs of Silesia, list, 2502; WERDER, Aphidae of Basle, 3007a. — *Thysanoptera*: GAVALOV, Stavropol district, 965; JOHN, Novgorod Govt., 1355. — *Ephemeroptera*: LESTAGE, Belgium (cont.), 1630. — *Odonata*: ARTOBOLEVSKIĬ, Crimea, list, 98. — *Dermoptera*: STSCHERBAKOV, Crimea, 2708. — *Orthoptera*: BAIER, Fribourg, list, Bull. Soc. fribourg. Sci. nat. 30 pp. 125-127; NADIG, Graubünden, Switzerland, 1979; PREDTECHENSKIĬ, Acrididae, Lower Volga, suppl., 2255; TARBINSKY, distribution of Orthoptera in Russia, 2751; ZEUNER, Tessin, Switzerland, 3108.

South Europe and Mediterranean Basin.

Insecta: FOLEY, insects from Ahagar, Sahara, 892; GESTRO & VINCI-GUERRA, insects of Oasis of Giarubub, list, 979. — *Coleoptera*: ANDRES, Tenebrionidae, Egypt, catalogue, 64, Bostrychidae, Egypt, 65; ANTOINE, *Litorus* (Tenebr.), Morocco, 74; FUENTE Y MORALES, Spain and Balearic Is., additions, 928; GRIDELLI, *Cafius* (Staph.), key, 1029; HEYROVSKY, Cerambycidae, Bulgaria, 1207; KANTARDJIEVA-MINKOVA, Cleridae, Bulgaria, 1398; LUIGIONI, National Park,

Abruzzo, 1686; DE PEYERIMHOFF, Coleoptera of Hoggar, Sahara, 2161; PFEFFER, distribution of Scolytidae in Czechoslovakia, 2165; ROUBAL, *Euthia*, Czechoslovakia, 2417; SCHEERPELTZ, Staphylinidae, Ionian and Peloponnesian Is. (cont.), 214.—*Hymenoptera*: CEBALLOS, Cryptini, Spain, revision, 486; TAVARES, Cynipidae of Spanish Peninsula (cont.), 2759.—*Lepidoptera*: DRÓZSEGHY, Retezat, Carpathians, 682; DRENOWSKI, Alibotus Mts., Macedonia, additions, 723; FIORI, Macrolepidoptera of Rendena Valley, N. Italy, 868; GIEYSZTOR, Macrolepidoptera of Forest of Białowieża, Poland, 984; MARIANI, Sicily, additions, 1765; WATTISON, Portugal (cont.), 2988.—*Diptera*: ADLER & THEODOR, *Phlebotomus*, Mediterranean Basin, 11; GIL COLLADO, Syrphidae, Spain, monograph, 985.—*Hemiptera*: BALACHOWSKY, Coccidae, Corsica, 123; KNECHTEL, Coccidae, Rumania, 1477; DE LÉPINEY & MIMÉUR, Coccidae, Morocco, list, 1622; MENOZZI, Heteroptera, Venezia Tridentina, 1841.—*Orthoptera*: SALFI, Cyrenaica, 2443.

Caucasus, West and Central Asia.

Insecta: THOMAS et al., insects collected in Rub' al Khali, S. Arabia, 2798; BLAIR, Southern Arabia, 290; KIESERTZKY, Silphidae from Pamirs, 1435; LUTSCHNIK, Carabidae from Pamirs, 1689; MEDVEDEV, Scarabaeidae from Pamirs, 1820; REICHARDT, Histeridae, Tenebrionidae from Pamirs, 2333; REINIG, Tenebrionidae from Pamirs, 2341; ZNOJKO, *Dyschirius* (Carab.) from Pamirs, 3118; ZUMPT, *Xylinophorus*, *Eutinopus* (Curc.), revision, 3126.—*Hymenoptera*: ALFKEN, Apidae from Pamirs, 41; BIRULA, *Vespa*, distribution, 275; DOVNAR-ZAPOLSKIĖ, Tenthredinidae of N. Caucasia, 704; GUSSAKOVSKIĖ, Aculeate Hymenoptera from Pamirs, 1058; HEDICKE, *Anthophora* (Apid.) from Pamirs, 1144; MALLACH, Tenthredinidae from Pamirs, 1726; REINIG, Apidae from Pamirs, 2340; ROMAN, Pimplinae, Tryphoninae (Ich.) from Kamchatka, 2393.—*Lepidoptera*: GERASIMOV, Microheterocera of Kashka-Darja, S.E. Bokhara, 976; OSTHELDER & PFEIFFER, Mafasch, Turkish N. Syria, 2103; REBEL, S. Arabia, list, 2322, 2323.—*Diptera*: ACHUNDOW, Culicidae, Azerbaijan, 5; BECKER et al., S. Arabia, list, 194; KALANDADZE, mosquitos of Georgia,

1386; KHODUKIN & SOFIEV, *Phlebotomus*, Central Asia, revision, 1434.—*Trichoptera*: MARTYNOV, Pamirs, 1788.—*Hemiptera*: GAYALOV, Coccidae, Caucasus, 964; KIRICHENKO, aquatic Heteroptera from N.W. Persia and Caucasus, 1444.—*Thysanoptera*: JOHN, from Minussinsk, 1354.—*Odonata*: BARTENEV, W. Caucasia, list, 168.—*Orthoptera*: KRAUSS, new spp. from S. Arabia, 1514, 1515; TARBINSKY, *Ramburiella* (Acrid.), Asiatic spp., 2752.

Africa.

Insecta: HANCOCK & SOUNDY, list of insects from Bugishu, Mt. Elgon, 1079.—*Coleoptera*: BERNHAUER, Staphylinidae from Abyssinia, 252, *Glypesthus* (Staphyl.), key, 254; BRYANT, *Spondylia* (Megalop.), key, 409; BURGEON, Callichromini, Belgian Congo, list, 430, Prionidae, Belgian Congo, 433; HINCKS, *Erionomus* (Passal.), 1224; KREKICH-STRESSOLD, new Anthicidae, Abyssinia, 1516; LABOISSIÈRE, Galerucini from Mozambique, 1565, Galerucini from Angola, 1566; LIEBKE, *Colliuris* (Carab.), 1638; OBENBERGER, *Meliboetus* (Buprest.), distribution, 2067; OMER-COOPER, Dytiscidae, Abyssinia, 2086; PEARCE, Halipidae, Abyssinia, 2140.—*Hymenoptera*: ARNOLD, Sphegidae, S. Africa (cont.), 92; COMPÈRE, *Diversinervus* (Encyrt.), revision, 564, *Baeoanusia* (Encyrt.), 566; FAHRINGER, Braconinae (part), revision, 829; WILKINSON, *Spathius* (Brac.), revision, 3047.—*Lepidoptera*: COLLENETTE, Lymantriidae from Brit. Somaliland, 552; PROUT, Geometridae, catalogue, 2272, Geometridae from Br. Somaliland, 2273; REBEL, Sokotra I., list, 2322, 2323; SAYERS, butterflies of Tanganyika Terr., list, 2466; VAN SOMEREN & ROGERS, butterflies of Kenya and Uganda, IX, 2912.—*Diptera*: BECKER et al., Diptera from Sokotra I., 194; CURRAN, *Diasemopsis* (Diops.), key, 610; GALLIARD, Culicidae of Gabun, 951; KRÖBER, Conopidae, S. Africa, revision, 1521, Therevidae, S. Africa, revision, 1522; SÉGUY, *Scenopinus*, key, 2544; THEODOR, *Phlebotomus*, key, 2783.—*Neuroptera*: BARNARD, Sialidae, Cape Province, 154; ESBEN-PETERSEN, Anglo-Egyptian Sudan, 807.—*Hemiptera*: SCHOUTEDEN, Reduviidae, Belgian Congo, catalogue, 2505.—*Thysanoptera*: PRIESNER, *Haplothrips*, revision, 2265.—*Psoco-*

ptera: BADONNEL, new spp. from Mozambique, 114.—*Odonata*: LONGFIELD, list of British Somaliland spp., 1657; RIS, new spp. from S. Angola, 2373.—*Orthoptera*: KRAUSS, new spp. from Sokotra I., 1514, 1515; REHN, new Tetriginae, 2331.—*Thysanura*: SILVESTRI, Japygidae from S. Africa, 2589.

Madagascar and Mascarene Is.

COMORO IS.

Coleoptera: BOUCOMONT, *Aulocnemis crassecostata* var. n., 351.—*Lepidoptera*: COLLENETTE, *Redoa* sp. n. (Lymantr.), 554.

MADAGASCAR.

Coleoptera: BOUCOMONT, *Aulonocnemis*, revision, 351; HEINZE, *Bradylema* sp. n. (Cricocer.), 1151; HOSCHECK, new Buprestidae, 1280; KNIRSCH, *Rhadinotaena* sp. n. (Ceton.), *Sbornik ent. odd. Nár. Mus. Praze* 8 1930; LABOISSIÈRE, *Alaotra* sp. n. (Galeruc.), 1564; OEBENBERGER, new Buprestidae, 2060, 2066; PIC, new spp., 2176, 2177, 2190, 2192, 2194; SPAETH, *Hoplionota* (Cassid.), 2646.—*Hymenoptera*: SCHULTHESS, *Icaria* sp. n. (Vesp.), 2509.—*Lepidoptera*: COLLENETTE, new Lymantriidae, 554; MEYRICK, new Tineidae, 1862; PROUT, *Aphilopota*, *Negloides*, spp. n. (Geom.), 2275; ROTHSCHILD, *Phryganopteryx* sp. n. (Arct.), Novit. zool., *Tring* 37.—*Diptera*: LENGERSDORF, *Rhynchomegalosphys* sp. n. (Mycetoph.), 1612; SÉGUY, *Macroptylum* sp. n. (Ceratop.), 2544.—*Trichoptera*: ULMER, *Dipseudopsis* sp. n., 2877.—*Hemiptera*: JENSEN-HAARUP, *Triplatyx* sp. n., 1345.—*Ephemeroptera*: NAVÁS, *Cloeon* sp. n., 1997.—*Dermaptera*: BORELLI, *Isopyge* sp. n., 337.—*Orthoptera*: KARNY, *Gryllacris* sp. n., 1407.

SEYCHELLES.

Coleoptera: MAULIK, new Chrysomelidae, 1817; SPAETH, *Hoplionota* spp. (Cassid.), 2646.—*Hymenoptera*: WILKINSON, *Spathius* sp. n. (Brac.), 3047.—*Diptera*: HERMITTE, *Anopheles gambiae* (Culic.) in Aldabra I., 1190.—*Psocoptera*: ENDERLEIN, 793.

Indo-Australian Region, collectively.

Hymenoptera: WILKINSON, *Spathius* (Bracon.), revision, 3047.—*Lepidoptera*: GAEDE, Cymatophoridae, catalogue, 943; HERING, Limacodidae, catalogue, 1183.—*Diptera*: FELT, Asiatic Cecidomyiidae, catalogue, 846.

Asia, Tropical and Eastern.

Insecta: New species of insects from Japan described during 1930, 2; ESAKI, fauna of the Bonin Is., 802; SOWERBY, insects of Manchuria, list, 2643.—*Coleoptera*: ANDREWES, Carabidae, catalogue, 66; ARROW, Copridae, India, Burma, Ceylon, 94; BOUCOMONT, Copridae of China, list, 352, 353; CAMERON, Staphylinidae, II, India, Burma, Ceylon, 455; CHO, Lucanidae from Korea, J. Chosen Nat. Hist. Soc. 12 pp. 56-60 1 pl.; FLEUTIAUX, Elateridae from Fr. Indo-China, 882, 888; HOFFMANN, Copridae from Hainan I., 1248; HORN, Cicindelinae, China, catalogue, 1276, Cicindelinae from Hainan, 1277; KANO, Paussidae, Formosa, 1389, Brenthididae, Japan, 1390, Col. of Bonin Is., 1391, Col. of Botel-Tobago I., 1392, 1393, Formosa, new Cetoniids, 1395; KLEINE, Lycidae, India, catalogue, 1456, Brenthididae, Lycidae, China, 1461; KÔNO, *Notoxus* (Anthic.), Japan, 1503; KREKICH-STRASSOLD, Anthicidae from India, 1517; MIWA, catalogue of Formosan *Coleoptera*, 1900, Elateridae V, Formosa, 1901, Elateridae, Loo-Choo Is., suppl., 1902, Lucanidae, Japanese Empire, I, 1903, *Glyphonyx* (Elat.) Formosa, key, 1904; MURAYAMA, Ipidae and Platypidae of Quelpart I. (Korea), 1968, Scolytidae, Platypidae, Korea, revision, 1970, 1971; OEBENBERGER, *Trachys* (Buprest.) revision (part), 2056; OCHS, Chinese Gyrinidae, 2072; TAKIZAWA, Halipidae, Japan, 2744, Gyrinidae, Japan, 2745; YOSHIDA, Formosan Prioninae, 3097; ZUMPT, *Xylinophorus*, *Eutinopus* (Curc.), revision, 3126.—*Hymenoptera*: BLÜTHGEN, *Halictus* and *Thrincostoma* (Apid.), revision, suppl., 306; COCKERELL, new Philippine Bombidae, 533; MONZEN, Japanese Cynipidae, 1915; TAKEUCHI, Pamphiliidae, Japan, revision, 2741; TERANISHI, ants of Palaearctic Japan, I, 2779; UCHIDA, Cryptinae (Ichn.), Formosa, 2860; WATANABE, *Helcon* (Brac.), Japan, key, 2985.—*Lepidoptera*: ARAKAWA, butterflies of S. Manchuria, list, *Zephyrus*, Fukuoka 3 pp. 29-40, 1 pl.; CARADJA, Microlepidoptera from China, 464; DOI, Rhopalocera from Mount Shouyou, Korea, 693; FLETCHER, Pterophoridae, India, catalogue, 877, Phalonidae and Chlidanotidae (Tortric.), India, 878; GODFREY, butterflies of Siam, list, 994, butterflies from Kaw Tao I., Gulf of

Siam, 995; MATSUMURA, Limacodidae, Japan, list, 1805, Aegeriidae, Japan, list, 1807; SHIBUYA, Endotrichinae (Pyril.), Japan, 2571; YATES, butterflies of Coorg, 3093.—*Diptera*: BARAUD & CHRISTOPHERS, mosquitos from Siam, 166; CHRISTOPHERS, SINTON & COVELL, Indian *Anopheles*, list, 513, 589; CURRAN, Syrphidae from Malay Peninsula, 619; HO, Culicidae of Peiping, China, 1229; KITAKAMI, Blepharoceridae, Japan, revision, 1451; SCHUURMANS STEKHOVEN, Pupipara, Tabanidae, of China, 2518.—*Hemiptera*: ESAKI, Heteroptera from Botel-Tobago I., Formosa, 803; FUNKHOUSER, Membracidae of China, 937; KANDA, Coccidae of Yokohama, list, 1388; KATO, Cicadidae of Japanese Emp., 1417, Hemiptera from Botel-Tobago I., Formosa, 1418; KUWANA, Coccidae of Amamioshima I., Loochoo Is., 1545, *Acerda*, Japan, 1547, *Phenacaspis*, Japan, VI, 1548, *Kermes*, Japan, 1549; KUWAYAMA, Psyllidae of Formosa, 1552; MATSUMURA, Cercopinae, Japan, monograph, 1801, Typhlocyids, list of spp., Japan, Formosa, 1809; MORI, Cicadidae of Korea, 1921; NAKAYAMA, Coccidae of Korea, 1983; SINGH, Aleurididae, India, revision, 2599; TAKAHASHI, Aphidae of Formosa, VI, 2735.—*Thysanoptera*: ISHIDA, Japan, 1311.—*Isoptera*: LIGHT, China, 1642; PENDLEBURY, Malaya, list, 2145; SNYDER, China and Indo-China, list, 2635.—*Odonata*: CHÔJÔ, Coenagrioninae from Formosa, 516; FRASER, Indian dragonflies (cont.), 909; LAIDLAW, Malay Peninsula, list, 1574; NEEDHAM, Hainan, 2005, China, additions, 2006.—*Dermoptera*: BORELLI, S. India, list, 338.—*Orthoptera*: FURUKAWA, Bonin Is., list, 938; HSÛ, Gryllidae from China coast, 1285; KARNY, Gryllacridae, China, 1409; SHIRAKI, Blattidae of Japanese Empire, 2577.

Asiatic Archipelago.

Insecta: PENDLEBURY, insects of Mangalum I., N.W. Borneo, 2143, 2144; VAN DER MEER MOHR, fauna of Pulau Berhala, 2906.—*Coleoptera*: ANDREWES, Carabidae, catalogue, 66, Carabidae of Mt. Kinabalu, Borneo, 63, new Carabidae, Sumatra, 70, 71; ARROW, *Peltonotus* spp. n. (Rutel.), Borneo, Philippines, 96; BOURGOIN, *Astraea* spp. n. (Ceton.), Philippines, 355; CHAFIN, *Adoretus* (Rutel.), Philippines, revision, 488, new Melolonthids, 489; CORPORAL,

Cleridae, Sumatra, list, 575; FLEUTIAUX, *Arhipis* spp. n. (Eucnem.), Sunda Is., 885, *Galbimorpha* sp. n. (Eucnem.), Borneo, 889; HEBERDEY, new Anthicidae, Sunda Is., 1138; HORN, *Cicindela* sp. n., Celebes, 1273, Cicindelidae from Mt. Kinabalu, 1274; JORDAN, new Anthribidae, Java, 1374; KLEINE, Brenthidae, Philippines, 1462, *Calodromus* sp. n. (Brenth.), Sumatra, 1463, *Lyropaeus* (Lycid.), key, 1464, Lycidae, Java, 1465, new Lycidae, Sumatra, Bali, 1466; MAULIK, *Dactylispa* sp. n. (Hisp.) Java, 1816; OCHS, Gyrinidae, Sunda Is., list, 2071; OHAUS, *Anomala* spp. n. (Rutel.), Celebes, Sumatra, 2076; SCHEDL, *Xyleborus* spp. n. (Scolyt.), Java, 2474, *Scolytolypatus* sp. n., Java, Ent. Bl. 27 p. 118; SCHLEICHER, Histeridae from Sunda Is., 2484; SCHWARZER, new Cerambycidae, 2525; THÉRY, new Buprestidae, 2786; UHMANN, *Botryonopa* sp. n. (Hisp.), Borneo, 2871, new Hispidae, Sumatra, 2872, 2876, new Hispidae, Philippines, 2873, 2875; WENDELER, *Paederus* spp. n. (Staph.), 3007.—*Hymenoptera*: BLÜTHGEN, *Halictus*, *Thrincostoma* (Apid.), revision, suppl., 306; DODD, *Oxytelio* (Proct.), Java and Philippines, 691; FERRIERE, new Chalcidoidea, Java, 854; STÄRCKE, ants of Palau Berhala, 2665.—*Lepidoptera*: COLLENETTE, new Lymantriidae, Celebes, Java, 555; VAN ECKE, *Voracia* sp. n. (Lasioc.), Java, 758; HERING, new Limacodidae, 1183; MEYRICK, new Microlepidoptera, 1862; MOULTON, new Lycaenidae, J. Straits Asiat. Soc. 60 1911 pp. 80–168; PROUT, Geometridae from Mentawai, 2276; WEST, new Philippine Pyralidae, 3014.—*Diptera*: ALDRICH, *Milichiella* sp. n., Philippines, 19; ALEXANDER, Tipulidae of Sunda Is., 25, new Tipulidae, Philippines, 32; BRUG, Culicidae of Sunda Is., list, 398; BRUG & EDWARDS, Culicidae from Sumatra, 401; CURRAN, new spp., Java, 612, new Syrphidae, Borneo, 620; DUDA, Chloropidae and Drosophilidae from Sunda Is., 728; EDWARDS, Nematocera from N. Borneo, 753, Mycetophilidae, Bibionidae, Scatopsidae, Anisopodidae, from Sumatra, 756; ENGEL, new Empidids, Java, 795; FALCOZ, *Raymondia* sp. n. (Strebl.), Java, 833; MALLOCH, new Acalyptrates, Philippines, Java, 1730, 1733; MANALANG, *Phlebotomus* spp. n. (Psych.) Philippines, 1742; MARTINI, *Dixa* spp. from Sunda Is., 1781; SACK, Syrphidae

(Dipt.) from Sunda Is., 2438; SCHMITZ, new Phorids, Java, 2496; STACKELBERG, new Javan Dolichopodidae, 2658; VAN DUZEE, *Argyra* sp. n. (Dolichop.), Java, 2911; VILLENEUVE, *Limnophora* sp. n. (Anthem.), Java, 2930.—*Siphonaptera*: JORDAN, new spp., Java, 1366, 1372, 1377.—*Trichoptera*: BANKS, new spp., Kinabalu, Borneo, 141.—*Neuroptera*: BANKS, new spp., Philippines, Borneo, 143.—*Hemiptera*: BLÖTE, Pyrrhocoridae from Neth. E. Indies, 299; HILLE RIS LAMBERS, *Astegopteryx* new spp. (Aphid.), Sumatra, 1221; JENSEN-HAARUP, new Pentatomids, 1345, 1346; LALLEMAND, *Cosmoscarta* spp. n. (Cercop.), Celebes, 1579, new Cercopidae, Philippines, Borneo, 1580; MUIR, *Neommatissus* sp. n. (Tropiduch.), Philippines, 1940; SCHMIDT, *Gynopygoplax* sp. n. (Cercop.), Philippines, Ent. Rdsch. 48 p. 64.—*Thysanoptera*: PRIESNER, *Haplothrips* sp. n., Sumatra, 2270.—*Psocoptera*: BANKS, new spp., Philippines, 143.—*Odonata*: LAIDLAW, Mangalum I., N.W. Borneo, 1573, Borneo, list, 1575; LIEFTINCK, Nias I., 1640.—*Orthoptera*: BOLIVAR Y PELTAIN, *Uvarovia* (Acrid.), revision, 325, *Rosacris* sp. n. (Acrid.), Philippines, Arch. zool. 15 p. 30; CHOPARD, Achetidae, Gryllotalpidae, Celebes, 503; HANITSCH, new Blattidae, Christmas I., 1080; KARNY, Tettigoniidae, Celebes, 1413, Gryllacridae, Celebes, 1414; SJÖSTEDT, *Valanga* spp. n. (Acrid.), 2605; WILLEMSE, Tetriginae from Sunda Is., 3048, Acrididae of Mangalum I., N.W. Borneo, 3049, Acrididae of Celebes, 3054.

Papuan Sub-region.

ARU IS.

Coleoptera: LEA, new Baridinae (Curc.), 1595.—*Orthoptera*: KARNY, *Gryllacris* sp. n., 1407.

BISMARCK ARCHIPELAGO.

Coleoptera: VAN ZWALUWENBURG, Elateridae from New Britain, 3129.—*Lepidoptera*: HERING, *Hydroclada* sp. n., New Britain, 1183; MEYRICK, new Tortricidae, 1862; PROUT, *Craspedosis* sp. n. (Geom.), New Ireland, 2275.

KEY IS.

LEA, *Gymnobaris* sp. n. (Curc.), 1595.

NEW GUINEA.

Coleoptera: BENICK, *Stenus* sp. n. (Staph.), 230; CAMERON, new Staphy-

linidae, 456; DEANE, new Trichopterygidae, 648; FLEUTIAUX, new Eucnemidae, 889; HOSCHECK, new Buprestidae, 1280; KLEINE, new Brenthidae, 1457; LEA, new spp., 1595–1597; LESNE, *Minthea* sp. n. (Bostr.), 1623; NAGEL, *Cyclommatus* sp. n. (Lucan.), 1981; SCHWARZER, *Hoplocerambyx* sp. n., *Tmesisternus* sp. n. (Longic.), 2525; THÉRY, new Buprestidae, 2786, 2787; VAN ZWALUWENBURG, new Elateridae, 3129.—*Lepidoptera*: CLARK, *Panacra* sp. n. (Sphing.), 518; GAEDE, new Cymatophoridae, 943; HERING, *Thosea* spp. n. (Limacod.), 1183; JANSE, new Pyralidae, 1331; MEYRICK, new Tineidae, 1862; PROUT, new Geometridae, 2275, 2277; RÖBER, *Amblypodia* spp. n. (Lycan.), 2375.—*Diptera*: ALEXANDER, *Trentepohlia* sp. n. (Tipul.), 24; BONNE-WEPSTER, *Taeniorhynchus* spp. n. (Culic.), 334; BRUG, *Anopheles* sp. n., 399; MALLOCH, *Plagiostenopterina* sp. n. (Ortal.), 1733; SOESILO & VAN SLOOTEN, *Bironella* sp. n. (Culic.), 2637.—*Hemiptera*: BLÖTE, *Dindymus* sp. n. (Pyrrhoc.), 299; FUNKHOUSER, *Emphusis*, *Eufairmairia* spp. n. (Membr.), 936; MUIR, *Pseudoparicana* sp. n. (Tropid.), 1945; SCHMIDT, *Varciella* sp. n. (Rican.), 2490.—*Orthoptera*: BOLIVAR Y PELTAIN, new Acrididae, 323, 324; HANITSCH, *Stilopyga* sp. n. (Blatt.), 1080; SJÖSTEDT, *Valanga* sp. n. (Acrid.), 2605.

SOLOMON IS.

Coleoptera: UHMANN, *Xiphispa* sp. n. (Hisp.), 2871.—*Lepidoptera*: HERING, *Limacontia* sp. n. (Limacod.), 1183; MEYRICK, new Tineidae, 1862.—*Neuroptera*: NAVÁS, *Brisus* sp. n., 1999.—*Hemiptera*: FUNKHOUSER, *Otinotoides* sp. n. (Membr.), 936; MUIR, new Homoptera, 1945.—*Orthoptera*: GÜNTHER, new Phasmid, 1045a; SJÖSTEDT, *Valanga* sp. n. (Acrid.), 2605; WILLEMSE, new Acrididae, 3051.

TENIMBER I.

Coleoptera: DIDIER, *Figulus* spp. n. (Lucanid.), 678.

Australia and Tasmania.

Coleoptera: CARTER, *Stigmodera* spp. n. (Buprest.), 477, Aust. Zool. 6 p. 386, Cistelidae, corrigenda to check list, 478; CLARK, *Atractocerus* sp. n. (Lymex.), 519; DEANE, new Trichopterygidae, 648, new Hydrophilidae, 649; ELSTON, new Elateridae, 773;

FLEUTIAUX, *Dromaeolus* sp. n. (Eucnem.), 889; LEA, new spp., 1595, 1596, 1598; OKE, new Curculionidae, 2081; PIC, *Encymon* sp. n. (Endom.), 2194.—*Hymenoptera*: COCKERELL, Apidae, revision, 541; COMPERE, *Coccophagus* spp. n. (Euloph.), 563; DODD, *Oxytelio*, *Bracalba* (Hym. Proct.), 691; GAHAN, *Cephalonomia* sp. n. (Bethyl.), 946; RAYMENT, new Apidae, 2317, 2318.—*Lepidoptera*: HERING, new Limacodidae, 1183; MEYRICK, *Diptychophora* sp. n. (Pyr.), 1862; TURNER, revision of *Lepidoptera*, suppl., 2851.—*Diptera*: ALEXANDER, new Tipulidae, 24; HARDY, *Damaromyia* sp. n. (Strat.), 1087; MALLOCH, Chloropidae, catalogue, 1732, new *Diptera*, 1732, 1733; RAYMENT, *Neoborus* sp. n. (Borbor.), 2319.—*Neuroptera*: MATHEWS, Rott-nest I., 1800; NAVÁS, *Suphalacsa* sp. n. (Ascalaph.), 1999.—*Mecoptera*: ISSIKI, *Chorista* sp. n., 1314.—*Hemiptera*: FROGGATT, *Apiomorpha* (Coccid.), 922; FUNKHOUSER, new Membracidae, 936; JENSEN-HAARUP, new Pentatomidae, 1345; KUWANA, *Aspidiotus* sp. n. (Cocc.), 1550; MUIR, new Homoptera, 1945.—*Thysanoptera*: MORISON, *Hemianaphothrips* sp. n., 1922; PRIESNER, *Ocuturothrips* sp. n., 2268.—*Mallophaga*: BEDFORD, *Tetrophthalmus* sp. n., 197.—*Isoptera*: HILL, *Eutermes*, *Calotermes* spp. n., 1218.—*Odonata*: MATHEWS, Rott-nest I., 1800.—*Orthoptera*: SJÖSTEDT, new Acrididae, 2603.—*Thysanura*: SILVESTRI, new Campodeidae, 2592.

America, collectively.

Coleoptera: LUEDERWALDT, Pino-tidae, key, 1683.—*Lepidoptera*: BOX, *Diatraea*, *Xanthophnera* (Pyr.), revision, 361; BROWN, *Aphrissa* (Pierid.), revision, 389; DRAUDT, Sphingidae, 718.—*Odonata*: RIS, *Perithemis*, revision, 2372.

North America.

Coleoptera: BLACKMAN, *Pseudopityophthorus* (Scolyt.), revision, 286, *Gnathotrichus* (Scolyt.), revision, 287; BLACKWELDER, Sphaeridiinae (Hydroph.), of Pacific Coast, 288; BLAKE, *Trirhabda* (Chrysom.), revision, 296; BROWN, Aegialiinae, revision, 392; BUCHANAN, *Pirigeraster* (Curc.), revision, 417; CARRUTH, Meloidae, S. Dakota, 476; DOB[R]ZHANSKY, *Coccinella*, revision, 690; FALL, *Attelabus* (Curc.), key, 837, *Hymenorus*

(Cistel.), 840; JEANNEL, Trechinae (Carab.), revision, 1337; STEHR, Coccinellidae, Minnesota, 2672.—*Hymenoptera*: ROSS, *Macrophya* (Tenth.), key, 2401, Dolerinae (Tenth.), revision, 2402; SMITH (Formic.), revision, 2625, ants of Mississippi, additions, 2626; WHITTAKER, Bethyloidea of British Columbia, list, 3030.—*Lepidoptera*: COOK, Noctuidae of Montana, 570; LARDNER, British Columbia, list, Mus. Art Notes, Vancouver 6 1931 pp. 99–103; LINDSEY, BELL & WILLIAMS, Hesperidae, revision, 1651.—*Diptera*: ALDRICH, *Spithimeigenia* (Tach.), revision, 21; ALEXANDER, Tipulidae, Quebec, list, 29; BEQUAERT, *Lasia* (Cyr.), revision, 238; CURRAN, *Rhynchocephalus* (Nemestr.), revision, 616; MALLOCH, *Pseudotephritis* (Ortal.), key, 1734, Anthomyiidae of S.W. United States, 1738; MALLOCH, GREENE & McATEE, Rhagionidae, District of Columbia, 1739; REINHARD, *Winthemia* (Tach.), revision, 2339.—*Mecoptera*: CARPENTER, revision, 473.—*Hemiptera*: BALL, *Aligia* (Jass.), key, 134; DE LONG, *Empoasca* (Jassid.), revision, 660; EVANS, Phymatidae, revision, 822; GILLETTE & PALMER, Aphidae of Colorado, I, 989; HOTTES & FRISON, Aphidae of Illinois, 1282; KLYVER, Chermidae of Utah, Nevada and Arizona, 1474; LAWSON, *Xerophloea* (Jassid.), revision, 1594; WOODBURY, Pentatomidae of Nat. Park, Utah, list, 3080.—*Isoptera*: BEALL, Br. Columbia, 186; LIGHT, Nevada, 1643.—*Odonata*: BYERS, Florida, 451.—*Dermoptera*: BUCKELL, Vancouver I., 419.—*Orthoptera*: BUCKELL, Vancouver I., 419; HEBARD, Mogoplistinae (Gryllid), U.S.A., 1137; REHN & HEBARD, Eumastacinae (Acrid.), revision, 2332.

Neotropical Region, collectively.

Coleoptera: NEVERMANN, *Telephanus* (Cucuj.), revision, 2018.—*Hymenoptera*: CUSHMAN, *Polycyrtus* (Ichn.), key, 627; WHEELER, *Xenomymex* (Form.), revision, 3024.—*Hemiptera*: MELIN, *Phymata*, revision, 1823.—*Orthoptera*: VIGNON, some genera of Pseudophyllinae, 2928.

Central America.

Coleoptera: VAN EMDEN, *Callirrhypis* (Rhipic.), key, 781.—*Diptera*: BEQUAERT, Tabanidae, Yucatan, Mexico, 240, Hippoboscidae, Yucatan, 241a.—

Hemiptera: JACZEWSKI, Mexican Coreixidae, list, 1322.—*Odonata*: CALVERT, *Palaemnema*, revision, 454.

Antilles.

Coleoptera: BIERIG, *Cephaloxynum* (Staph.) spp. n., Cuba, 271; BLAKE, *Megistops* sp. n., (Haltic.), Haiti, 295; PIC, *Cyparium*, *Chalepus*, spp. n., 2194; WOLFRUM, *Phaenotheriopsis* sp. n. (Anthrib.), Cuba, 3073.—*Hymenoptera*: AGUAYO, *Macromischa* spp. n. (Formic.), Cuba, 11a; ARNDT & DOZIER, *Leptoteleia* sp. n. (Scelion.), 87; BEQUAERT & SALT, new Diptera, 242; DOW, new Mutillidae, Cuba, Haiti, 706; DOZIER, *Baeus latroducti* sp. n. (Scelion.), Haiti, 710; FERRIÈRE, *Anastatus* sp. n. (Eupelm.), Cuba, 855; GAHAN, *Encarsia* sp. n., Cuba, Proc. Ent. Soc. Wash. 33 p. 121; MANN, *Cerapachys* sp. n. (Formic.), Porto Rico, J. Wash. Acad. Sci. 21 p. 440 fig.; SANTSCHI, new Formicidae, Cuba, 2459; WHEELER, new ants, Cuba, 3021.—*Lepidoptera*: KAYE, butterflies of Jamaica, additions, 1423; MEYRICK *Acrocerops* sp. n. (Tin.), Haiti, 1862; PROUT, new Cuban Geometridae, 2278; ROTHSCILD, *Sarosa* sp. n. (Syntom.), Santo Domingo, 2407; WILLIAMS, *Hesperiiidae*, Cuba, 3059.—*Diptera*: ALEXANDER, new Tipulidae, 30; CURRAN, Diptera of Porto Rico and Virgin Is., suppl., 608; FROST, *Agromyza* spp. n., St. Vincent, Porto Rico, 925; KRÖBER, *Tabanus* sp. n., Haiti, 1523; WHEELER, *Vermileo tibialis* var. n. *dowi* (Rhagion.), Cuba, Psyche 38 p. 167.—*Neuroptera*: SMITH, Haiti, 2628.—*Hemiptera*: BARBER, *Oncerothachelus* sp. n. (Reduv.), Cuba, 150; BRUNER, *Heza* spp. n. (Reduv.), Cuba, 403; CHINA, *Paracarnus* sp. n. (Capsid.), Cuba, 498; DOZIER, *Ceroplastes* sp. n. (Cocc.), Haiti, 708, new Homoptera, Haiti, 709; MUIR, *Amaclardea* sp. n. (Tropid.), Jamaica, 1940.—*Odonata*: DOW, Cuba, list, 707.—*Dermaptera*: MENOZZI, Dominican Republic, 1838.—*Thysanura*: SILVESTRI, new Campodeidae, Cuba, 2590.

South America.

Insecta: CAMPOS, spp. new to Ecuador, 459; ESCOMEL, Arequipa, Peru, 813.—*Coleoptera*: ARANGUA, distribution of some Cicindelidae, 84; ARROW,

Trichillum (Copr.), key, 95; BARATTINI, Cicindelinae, Uruguay, 149; HORN, Cicindelidae, Bolivia, list, 1278; LUEDERWALDT, Passalidae of Brazil, monograph, 1681, *Ontherus* (Copr.), Brazil, 1683, *Bolboceras* (Geotrup.), 1685; PORTER, *Chenoderus* (Cerambyc.), revision, 2248.—*Hymenoptera*: ALFKEN, *Corynura* (Apid.), Chile, key, 43; CAMPOS, *Pepsis* (Pompil.), Ecuador, 457; LIEBERMANN, *Spheg*, Argentina, revision, 1635.—*Lepidoptera*: BREYER, Castniidae, Argentina, 376; HAYWARD, Nymphalidae, Argentina, revision, 1131; KÖHLER, *Hylesia*, Argentina, 1490, Psychidae, Argentina, 1491; MEYRICK, Pterophoridae, Tortricidae, Tineidae, from Bolivian Chaco, 1864; ORFILA, *Eurota* (Syntom.) Argentina, 2094, catalogue of Lepidoptera of Argentina, additions, 2095; PROUT, Geometridae from Bolivian Chaco, 2274; ZERNY, Syntomidae, Pará, Brazil, 3104.—*Diptera*: BORGMAYER, *Myrmosicarius* (Phorid.), key, 339; CAMPOS, mosquitos, Guayaquil, 458; COLLIN, Platypezidae and Pimplulidae of Patagonia and S. Chile, 556; DA COSTA LIMA, *Sabethoides*, *Sabethes* (Culic.), revision, 582, *Megarhinus* (Culic.), Brazil, 584; CRESSON, Ephydriidae, Patagonia and S. Chile, 594; EDWARDS, Simuliidae, S. Chile and Patagonia, 749, Bibionidae, Mycetophilidae from Bolivian Chaco, 754; ENDERLEIN, Pantophthalmidae, key, 790; ENGEL, Anthomyiidae, Muscidae and Sarcophagidae from Bolivian Chaco, 796; INGRAM & MACFIE, Ceratopogonidae, Patagonia and S. Chile, 1305; KRÖBER, Pelecorhynchinae, Melpinae (Taban.), 1524; MARTINI, Culicidae from Bolivian Chaco, 1784; PARAMONOW, *Lyophlaeba* (Bombyl.), key, 2115; RICHARDS, Borboridae, Patagonia and S. Chile, 2357; SCHMITZ, Phoridae (suppl.), Patagonia and S. Chile, 2494; SHANNON, mosquitos of Middle Coast States, Brazil, 2561, Argentine Culicidae, list, 2563; VAN DUZEE, *Chrysotus* (Dolichop.), key, 2908, *Thrypticus* (Dolichop.), key, 2910.—*Siphonaptera*: JORDAN, fleas from Ecuador, 1376.—*Plecoptera*: SÄMAL, *Diamphipnoa*, revision, 2452.—*Ephemeroptera*: LESTAGE, Chile, 1629.—*Odonata*: CALVERT, *Palaemnema*, revision, 454.—*Orthoptera*: HEBARD, spp. from Bolivian Chaco, 1135.—*Collembola*: DENIS, Costa Rica, 671.

III.—SYSTEMATIC.

GENERAL.

Variation in insect abundance and its causes, BLUNCK 4. Wandervers. deuts. Ent. Kiel (11-15 vi, 1930) 1930 pp. 19-41.

Animal ecology with especial reference to insects, CHAPMAN New York & London, McGraw-Hill Co. Ltd. 1931 x + 464 pp. 16 figs.

Coaptation in insects, CORSET Bull. biol. Fr.-Belg. suppl. 13 337 pp. 2 pls. 182 figs.

Notes on insects of Malaya, ENRIQUES Malaya, London, 1927 pp. 48-66, 4 pls.

A history of Entomology, ESSIG New York, MacMillan Co. 1931 vii + 1029 pp. 263 figs. & portraits.

Characters of immature stages used in classification of insects, HAYES Trans. Illinois Acad. Sci. 24 pp. 181-202.

Social behaviour in insects, IMMS London, Methuen & Co. Ltd. 1930 ix + 117 pp. 20 figs.

Recent advances in Entomology, IMMS London, J. & A. Churchill 1931 viii + 374 pp. 84 figs.

The insect fauna of Iceland and its problems, LINDROTH Zool. Bidr. Uppsala 13 pp. 105-589, 50 figs.

Six thousand illustrated insects of Japanese Empire [in Japanese], MATSUMURA Tokyo 1931 pp. ii, iii, iii, 23, 1497 + 191, 2, 6, 10 pls. many figs.

The dry-fly fisherman's Entomology, MOSELY London, Routledge & Sons 1921 xx + 109 pp. 16 pls. 43 figs.

Insects, ticks, mites and venomous animals of medical and veterinary importance. Part II. Public Health, PATON Liverpool, School Trop. Med. 1931 viii + 740 pp. 57 pls. 388 figs., 1 chart.

A textbook of agricultural Entomology, SMITH Cambridge Univ. Press 1931 xiii + 285 pp. 80 figs.

Key catalogue of parasites reported for bats with their possible public health importance, STILES & NOLAN Bull. Nat. Inst. Health no. 155 pp. 603-742, 767.

Evolution of insects, TILLYARD Rep. Aust. Ass. Adv. Sci. 20 pp. 193-241, 7 figs.

Insects and climate, UVAROV Trans. Ent. Soc. Lond. 79 pp. 1-247, 53 figs.

Demons of the dust, WHEELER London, Kegan Paul, Trench, Trubner & Co. [1931] xviii + 378 pp. 1 pl. 49 figs.

Handbook of insects and other invertebrates of Hawaiian sugar cane fields, WILLIAMS et al. Expt. Sta. Haw. Sug. Planters' Assoc. 1931 400 pp. 41 pls. 190 figs.

COLEOPTERA.

Coleoptera collected in Korinchi, W. Sumatra by Messrs. H. C. Robinson & C. Boden Kloss, J.F.M.S. Mus. 8 1931 pp. 206-213.

Aquatic Coleoptera of the Isle of Wight, BALFOUR-BROWNE Ent. Mon. Mag. 67 pp. 1-10, 1 fig.

Illustrated keys to Coleoptera of France (contd.), BARTHE Misc. ent. 33 sep. pp. 371-386, 11 figs.

Additions to catalogue of Coleoptera for the British Isles, BEARE Ent. Mon. Mag. 67 pp. 10-11.

Corrections to Reitter's Fauna germanica, BERCIO Coleopt. Centralbl. 5 pp. 139-145.

Capture and rearing of larvae of aquatic Coleoptera, BERTRAND Ann. Soc. ent. Fr. 100 pp. 87-98, 13 figs.

The beetles of the Scilly Islands, BLAIR Proc. Zool. Soc. Lond. 1931 pp. 1211-1258.

A list of coprophagous Coleoptera of China, BOUCOMONT Lingnan Sci. J. 7 pp. 759-794.

Catalogue of the Coleoptera of Ardennes, BOUGERIE Bull. Soc. Hist. nat. Ardennes 1929 23 pp. 63-67; 24 pp. 76-77.

An illustrated synopsis of the principal larval forms of Coleoptera, BÖVING & CRAIGHEAD Ent. amer. 11 pp. 1-351, 125 pls.

Some Coleoptera new to Torneträsk, Sweden, BRUNDIN Ent. Tidskr. 51 1930 pp. 48-52.

First supplement to 2nd edn. of Heyden "Die Käfer von Nassau und Frankfurt," BÜCKING Ent. Bl. 27 pp. 39-42, 174-183.

Annotated list of additions to British Coleopterous fauna since Fowler's "Coleoptera of the British Isles" suppl. vi, DONISTHORPE Ent. Mon. Mag. 67 pp. 22-30, 68-75, 119-126, 164-175, 8 pls.

Revision (part) of Clavicornia of the Lyons district, FALCOZ Ann. Soc. linn. Lyon 76 pp. 110-118.

Morphological notes on water-beetles from Stockholm district, FALKENSTRÖM Ent. Tidskr. 51 1930 pp. 143-159, 9 figs.

Distribution and biology of German beetles, IV, FRANCK Ent. Bl. 27 pp. 1-3.

Habits of leaf-mining Coleoptera on Barro Colorado Island, Panama, FROST Ann. Ent. Soc. Amer. 24 pp. 396-400, 4 pls.

Catalogue of Coleoptera, Spain and Balearic Is. (contd.), FUENTE Y MORALES Bol. Soc. ent. Esp. 13 pp. 138-153; 14 pp. 21-38, 49-66, 78-93, 100-115, 138-153.

Ecology of aquatic beetles of Presque Isle, Lake Erie, GAMBLE Proc. Penn. Acad. Sci. 5 pp. 97-100.

Immature stages of Indian Coleoptera, GARDNER Ind. For. Rec. 16 pp. 91-111, 5 pls.

Supplement to the water-beetles of the Belgian Congo, GSCHWENDTNER Rev. Zool. Bot. afr. 20 pp. 180-182.

Coleoptera of Denmark with descriptions of larvae and spp., keys, HANSEN Danmarks Fauna 36 pp. 1-164, 30 figs.

Status of Leng's classification of Coleoptera, HATCH Ent. News 42 p. 76.

Beetles described by C. Hampe in 1852, HETSCHKO Wien. ent. Ztg. 48 p. 174.

Catalogue of Czechoslovakian Coleoptera (contd.), HEYROVSKÝ Acta Soc. ent. Cech. 27 1930 suppl. p. 17-61.

Notes on some remarkable Coleoptera and some new to the Swedish fauna, JANSSON Ent. Tidskr. 51 1930 pp. 160-172.

Annotated list of cavernicolous Coleoptera collected in N. America in 1928, JEANNEL Arch. Zool. exp. gén. 71 pp. 403-411, 6 figs.

Coleoptera of Botel—Tobago I., Formosa, KANO Bull. Biogeogr. Soc. Japan 2 pp. 168-192, 2 pls.

Notes on Utah Coleoptera (contd.), KNOWLTON Florida Ent. 15 p. 10.

Contribution to the knowledge of the Silesian Coleopterous fauna, KOLBE Z. Ent. 17 pp. 8-17.

On some Coleoptera from N. Australia collected by Dr. H. Basedow, LEA Trans. Roy. Soc. S. Aust. 54 1930 pp. 148-154, 1 fig.

Synonymical and morphological notes on some Coleoptera of Sweden, LINDROTH Ent. Tidskr. 51 1930 pp. 112-133, 23 figs.

Coleoptera of National Park, Abruzzo, LUIGIONI Atti Acc. Nuovi Lincei 84 pp. 120-180.

A systematic list of the Coleoptera collected in Transbaikalia and the Ussuri Region, MANDL Wien. ent. Ztg. 48 pp. 1-28, 1 fig.

Annotated list of Coleoptera from Bukovina, MARCU Bull. Acad. Roumaine 13 1930 pp. 248-254.

List of some 100 Coleoptera new to Bukovina, MARCU Bull. Acad. Roumaine 14 pp. 109-115.

List of Coleoptera new to Bessarabia, MARCU Bull. Acad. Roumaine 14 pp. 116-123.

Annotated list of Coleoptera of Normandy, MAZETIER Bull. Soc. linn. Normandie (8) 2 1929 pp. 55-64; (8) 3 pp. 27-40.

Annotated list of Coleoptera of Calvados, MAZETIER Bull. Soc. linn. Normandie (8) 2 (1929) 1930 Trav. Orig. pp. 24-64.

Systematic catalogue of Formosan Coleoptera, MIWA Rep. Dept. Agric., Govt. Res. Inst. Taihoku 55 359 pp.

Review of the literature on the Palpicornia, D'ORCHYMONT C.R. Congr. nat. Sci. Bruxelles 1930 pp. 850-855.

Annotated list of Hydradephaga and Polyphaga of Westphalian-Lippe mountain districts; PEETZ Abh. Westf. Prov. Mus. Naturk. 2 pp. 129-144.

Coleoptera collected in the Sahara by Mission Augiéras-Draper 1927-28, DE PEYERIMHOFF Bull. Mus. Paris (2) 3 pp. 487-491.

Coleoptera collected on the scientific mission to Hoggar, DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2 172 pp. 3 pls. 2 maps 19 figs.

List of Coleoptera of the Crimea, PLIGINSKY Bull. Soc. Nat. Crimée 3 1913 pp. 93-106; 5 1916 pp. 115-144; 10 1928 pp. 40-100.

Coleoptera of France, Polyphaga, PORTEVIN Encyc. ent. Sér. A 13 vii + 542 pp. 5 pls. 553 figs.

Addenda to Panzer's Fauna Insectorum Germanicae initia and Catalogus coleopterorum Europae etc. 1906. RAPP Mitt. ent. Ges. Halle a.S. 12 1919 pp. 9-11.

Catalogue of Coleoptera (Cicindelidae—Histeridae) of Czechoslovakia and Carpathians, ROUBAL Kat. Col. Slov. Podkarp. 1930 527 pp.

Some additions to parts of Coleopt. Catalogus, ROUBAL Acta Soc. ent. Cech. 27 1930 pp. 5-6.

List of Coleoptera collected in the Balkans, ROUBAL Ent. Anz. 11 pp. 311-312, 362 etc.

Contribution to the Rhenish Coleoptera, X-XI, RÜSCHKAMP Ent. Bl. 27 pp. 7-13, 134-141.

Variation in males and females in Coleoptera, SPETT & SCHAPOSCHNIKOW Z. Morph. Oekol. Tiere 22 pp. 121-162.

Fabrician types of Cicindelidae, Carabidae, Dytiscidae, Scarabaeidae, Silphidae, Histeridae and Erotylidae in Hunterian collection at Glasgow Univ., STATE Cambridge Univ. Press 1931 xv + 110 pp. 28 pls.

Coleoptera of Szeged, Hungary, II, STILLER Mitt. deuts. ent. Ges. 2 pp. 56-64, 1 fig.

List of Coleoptera of Württemberg, TRAPPEN Jhft. Ver. vaterl. Naturk. Württemberg 86 1930 pp. 65-94.

Collecting in Corsica, WAGNER Coleopt. Centralbl. 4 1929 pp. 152-164; 5 1930 pp. 30-40; 5 1931 pp. 149-152.

Studies on the British necrophagous Coleoptera, WALSH Ent. Mon. Mag. 67 pp. 76-81, 1 fig.

CICINDELIDAE.

Distribution and biology of some Cicindelids in S. America, ARANGUA Rev. chil. Hist. nat. 34 1930 pp. 152-154.

Descriptions of and notes on Cicindelinae of Uruguay, BARATTINI An. Fac. Med. Montevideo 14 1929 pp. 1208-1224, 2 pls.

Analytical keys to Cicindelidae of France, 2nd edn., BARTHE & TAREL Misc. ent. 33 sep. pp. 1-30, 23 figs.

Biology of Cicindelidae, DENIELOW La Nature 1931 pp. 438-439, 3 figs.

Morphology and physiology of organs of sight in Cicindelidae, FRIEDRICH Z. Morph. Oekol. Tiere 21 pp. 1-172, 93 figs.

Catalogue of Chinese Cicindelinae including Macao, Hong Kong and the "exterior" provinces of China, HORN Lingnan Sci. J. 9 pp. 297-413.

Biology of various Cicindelids of Hong Kong, HORN Hong Kong Nat. 2 pp. 258-261, 7 figs.

Some Cicindelidae from Mt. Kinabalu, N. Borneo, HORN J. F.M.S. Mus. 16 pp. 287-289.

Bibliographical list of Cicindelidae of Bolivia, HORN Rev. Ent. S. Paulo 1 pp. 19-30.

Field notes on Cicindelidae of Kwangtung, MELL Lingnan Sci. J. 10 pp. 287-293.

Records of Indiana Cicindelidae, MONTGOMERY Proc. Indiana Acad. Sci. 40 pp. 357-359.

Cicindela annotated list of French spp. p. 107, CATHERINE Bull. Soc. linn. Seine-Marit., Le Havre 14 1928.—*C. aphrodisia* (synonymy p. 158), *campestris* subsp. *suffriana*, *contorta*, *dorsata*, *aulica* distribution E. Mediterranean pp. 157-163 fig., HORN Bull. Soc. ent. Égypte 1931.—*C. sphaericollis* sp. n. Celebes p. 3, HORN Ent. NachrBl. 5.—*C. disco-velutinosa* sp. n. Borneo p. 288, HORN J. F.M.S. Mus. 16.—*C. germanica* subsp. n. *umbratulosa* China p. 403; *davidi* Fairm. a subsp. of *germanica* p. 404, HORN Lingnan Sci. J. 9.—*C. pronotalis*, *funerea* new to China p. 494, HORN op. cit. 10.—*C. campestris* abb. n. *loridei*, *edmundi* France p. 71, LEBS Misc. ent. 33.—*C. nitakana* sp. n. Formosa p. 69 fig., KANO Proc. Imp. Acad. Tokyo 7.—*C. flexuosa* ab. n. *baguenai* Spain p. 229, VIDA Y LÓPEZ Bol. Soc. esp. Hist. nat. 31.—*C. hydrophoba* var. n. *atroreducta* Mexico p. 9, HORN Rev. chil. Hist. nat. 34 1930.

Odontochila cyanella subsp. n. *pseudomargineguttata* Brazil p. 310, HORN t.c.

Tetracha lucifera var. *steinheili* further description p. 311, HORN t.c.

Therates kotoshonis sp. n. Formosa p. 69 fig., KANO Proc. Imp. Acad. Tokyo 7.—*T. schaumianus* subsp. n. *flavoornata* Borneo p. 6, HORN Ent. NachrBl. 5.

CARABIDAE.

Catalogue of Indian Carabidae, also comprising Afghanistan, Baluchistan, S. Tibet, Siam, Indo-China, Malay and Philippine Is. and Yunnan, ANDREWES Govt. India Centr. Pubn. Branch 1930 xxii + 369 pp.

Carabidae of Mt. Kinabalu, Borneo, ANDREWES J. F.M.S. Mus. 16 pp. 431-485, 31 figs.

Carabids collected in Massif du Likoumt-Toubkal (Great Atlas), ANTOINE Bull. Soc. Sci. nat. Maroc 11 pp. 12-23.

Additions and corrections to Carabidae by Csiki in Coleopt. Catal., DE BASILEWSKY Bull. Ann. Soc. ent. Belg. 71 pp. 95-97, 145-149.

Morphological notes on Carabids, CATHERINE Bull. Soc. linn. Seine-Marit., Le Havre 14 1928 pp. 122-125.

Catalogue of Harpalinae, V, CSIKI Col. Cat. 115 pp. 739-1022.

Notes on Cychrini collected in Great Smoky Mts. of Tennessee and N. Carolina, DURY Proc. Junior Soc. Nat. Sci. 2 pp. 17-20.

Biology and conservation of Carabid larvae with key to Centr. European gen., VAN EMDEN Ent. Jahrb. 1921 pp. 121-137.

Biology of some Carabids, HERTZ Ann. Soc. zool.-bot. fenn. Vanamo 8 1929 pp. (47)-(51).

New Asiatic records of some Carabidae, JEDLIČKA Ent. NachrBl. 5 pp. 7-8.

Catalogue of Carabinae, LAPOUGE Gen. Ins. 192b pp. 293-580.

Keys to gen. and subgen. of Carabini of France, LAPOUGE Misc. ent. 33 sep. pp. 1-30.

List of Carabids from Pamirs, LUTSCHNIK Abh. Pamir Exped. 1928 2 1930 pp. 31-50, 1 pl.

Preliminary note on Petri's comments on Carabids, MALLÁSZ Pub. Muz. jud. Hunedoara 25-26 1928 pp. 146-149.

Criticism of the Catalogue of Harpalinae by Csiki, Col. Cat. parts 97 and 98, NETOLITZKY Deuts. ent. Z. 1931 pp. 153-167.

Notes on Carabids of the River Plate region, TREMOLERAS Rev. Soc. ent. argent. 3 pp. 239-242.

Abatus see *Capabatus*.

Acupalpus ustus sp. n. Sumatra p. 195, ANDREWES Zool. Meded. 13 1930.—*A. meridianus* f. n. *clarissima* Czechoslovakia p. 160, ROUBAL Kat. Col. Slov. Podkarp. 1930.

Aetophorus imperialis ruficeps in Lyonnais, critical notes p. 149, JACQUET Bull. Soc. linn. Lyon 10.

Allogenes gen. n. p. 74, *mundus* sp. n. Borneo p. 75, ANDREWES Zool. Meded. 14.

Aloma gen. n. p. 448, *mirum* sp. n. Borneo p. 449 fig., ANDREWES J. F.M.S. Mus. 16.

Amara (*Zelea* subgen. n. n. for *Triana* Lec. nec Hb.) p. 402, CSIKI Col. Cat. 104 1929.—*A. pamiricola* p. 44, *sedula* p. 45, spp. n. Pamirs figs., LUTSCHNIK Abh. Pamir Exped. 1928 2 1930.—*A. gottelandi* sp. n. Morocco p. 21, ANTOINE Bull. Soc. Sci. nat. Maroc 11.

Amblops gen. n. p. 520, *piceus* sp. n. India p. 521, ANDREWES Ann. Mag. Nat. Hist. (10) 7.

Americomaseus subgen. n. n. see *Pterostichus*.

Ananotaphus subgen. n. see *Bembidion*.

Anchista nubila sp. n. India p. 526, ANDREWES Ann. Mag. N.H. (10) 7.

Anchomenus viator sp. n. India p. 517, ANDREWES t.c.

Andrewesa subgen. n. see *Bembidion*.

Anisodactylus key to (p. 61), list of (p. 83) Palaearctic spp., *Pseudhexatrichus* subgen. n. p. 61; *dejeani* var. n. *aporus* Algeria p. 62; *poeciloides* ab. n. *mazetieri* p. 63; *virens* ab. n. *chalcantus*, *tristissimus* France, *bedeli* Barbary, *aurichalceus* Tunisia; *intermedius* ab. n. *marginellus* France p. 64; *signatus* ab. n. *tschitscherini*, *brunneipennis* Palaearctic p. 65; *binotatus* ab. n. *matheyi*, *espinassei* Switzerland; *nemorivagus* var. n. *porosus* France p. 67;

antoini Morocco, *hispanus* Spain p. 66 spp. n., PUEL Ann. Soc. ent. Fr. 100.—*A. karennius* Bates from *Harpalus* p. 527, ANDREWES Ann. Mag. N.H. (10) 7.

Anophthalmus bohiniensis subsp. n. *stolfai* Austria p. 180; *scopolii* characters; s. subsp. n. *glacialis* p. 181, *ternovens* p. 182, *lomensis*, *impudicus* p. 183, *labacensis* Austria, *episcopalis* p. 186; *micklitzi* subsp. n. *concupinus* p. 187, *springeri* p. 188, *fabbrii* p. 190 Carniola; *hirtus* subsp. n. *sanctae-luciae*, *gridellii* Austria p. 191 figs., MÜLLER Atti Mus. Trieste 11.

Anthracus consputus ab. n. *nigrinus* Silesia p. 9, KOLBE Z. Ent. 17.

Antisphodrus boldorii biology pp. 15-16 fig., GHIDINI Grotte d'Italia 5; larva p. 40 figs., GHIDINI Boll. Soc. ent. ital. 63.

Aphaenops longicollis sp. n. France p. 13, JOFFRE Misc. ent. 33.

Apotomopterus longeantennatus p. 4, *nanosomus* p. 5, spp. n. China, HAUSER Mitt. deuts. ent. Ges. 2.

Archicolliuris subgen. n. see *Colliuris*.

Arhytinus further description p. 473, *bembidioides* Bates further description p. 474, ANDREWES J. F.M.S. Mus. 16.

Aulacozabrus subgen. n. see *Zabrus*.

Bembidion (*Bembidium*) rules governing geographical races pp. 277-290, NETOLITZKY Biol. Zbl. 51.—*B.* key p. 35, *pamiricola* p. 34, *reichardti* p. 36, spp. n. Pamirs figs., LUTSCHNIK Abh. Pamir Exped. 1928 2 1930.—*B. obtusum* and allied spp. morphological notes pp. 54-65 map, GRIDELLI Mem. Soc. ent. ital. 10.—*B.* spp. in subgen. *Omotaphus* p. 174, *mixtum* synonymy p. 169 (with subsp. n. *sperans* S. Africa) p. 170; *scotti* sp. n. Abyssinia p. 172; *Notaphomimus* subgen. n. type *opulentum* Niet. p. 175, list of spp. p. 178; *sobrinum* Boh. (= *opulentum* Nietn.) p. 176 (with subsp. n. *luzonicum* Luzon) p. 177; *mus* sp. n. Abyssinia p. 178; *Andrewesa* (type *incisum* Andr.) p. 180, *Ananotaphus* (type *errans* Blckb.) p. 181, *Sloanephila* (type ? *jacksoniense* Guér.), *Zeactedium* (type *orbiferum* Bates) p. 182 subgenn. n., NETOLITZKY Wien. ent. Ztg. 47.—*B.*, *Furcacampa* type affine Say p. 158, *Omoperyphus* type *hypocrita* p. 165 subgenn. n., NETOLITZKY Deuts. ent. Z. 1931.—*B. iphigenia* sp. n. Crimea p. 79; *subcylindricum* subsp. n. *kuliabense*

Bokhara, *kyros* Persia p. 80, NETOLITZKY Coleopt. Centralbl. 5.—*B. pendleburyi* sp. n. Borneo p. 442 fig., ANDREWES J. F.M.S. Mus. 16.—*B. decoratum* subsp. n. *ictis* Morocco p. 14, ANTOINE Bull. Soc. Sci. nat. Maroc 11.—*B. incognitum* p. 34, *luigionii* p. 38, spp. n. Italy; *fasciolatum*, *bugnioni*, *ascendens* synonymy p. 37 fig., MÜLLER Boll. Soc. ent. ital. 63.

Brachinus praestans sp. n. Sumatra p. 67, ANDREWES Zool. Meded. 14.—*B. peltastes* sp. n. India p. 518, ANDREWES Ann. Mag. N.H. (10) 7.—*B. atripennis* Ball. (= *kosak* Ilj.) p. 116, KOLOSOSOV Ent. Bl. 27.—*B. psophia* abnormal marking p. 27, JACQUET Bull. Soc. linn. Lyon 10.

Brachydema see *Sloanella*.

Caelostomus gibbus sp. n. Sumatra p. 66, ANDREWES Zool. Meded. 14.—*C. montanus* sp. n. Borneo p. 446, ANDREWES J. F.M.S. Mus. 16.

Calleida pallipes sp. n. India p. 525, ANDREWES Ann. Mag. N.H. (10) 7.

Callistomimus gracilis sp. n. India p. 513, ANDREWES t.o.

Capabatus n. n. for *Abatus* Per. nec Phil. p. 529, CSIKI Col. Cat. 112 1930.

Carabus auratus f. n. *clermonti* France p. 61, SIRGUEY Misc. ent. 33.—*C. clathratus* var. *arelatensis* biology p. 85, JACQUET Bull. Soc. linn. Lyon 10.—*C. auronitens* varr. n. *normannensis*, *normanneus*, *caeruleomicans*, *viridicollis*, *aurea*, *purpurata*, *sculptipennis* p. 65, *tourteaul*, *canvini*, *marginatus*, *guedeli*, *lebisi*, *gauberti*, *charpentieri*; *purpureus* varr. n. *parallelus*, *ligneus* p. 66; *splendens* varr. n. *hemipterus*, *palesius* p. 67 France, SIRGUEY Misc. ent. 33.—*C. problematicus* varr. *occitanus*, *planiusculus* morphological differences pp. 11-12, JOFFRE Misc. ent. 33.

Catascopus key to Sumatran spp. p. 60, ANDREWES Zool. Meded. 14.

Chlaenius canariensis new to Morocco p. 17, ANTOINE Bull. Soc. Sci. nat. Maroc 11.—*C. omochlorus* sp. n. India p. 514; *hamatus* Dej. (= *macleayi* Andr.) p. 527, ANDREWES Ann. Mag. N.H. (10) 7.

Chrysocarabus splendens var. *vacheri* n. n. for *rufofemoratus* Lap. nec Letzn. p. 145, DE BASILEWSKY Bull. Ann. Soc. ent. Belg. 71.—*C. auronitens* variation p. 296 figs., HEUER Int. ent. Z. 25.

Chydaeus planicollis sp. n. Sikkim p. 515, ANDREWES Ann. Mag. N.H. (10) 7.

Clivina monticola sp. n. Borneo p. 441 fig., ANDREWES J. F.M.S. Mus. 16.

Coeloxenus gen. n., *guentheri* sp. n. Brazil p. 75 (note), WASMANN Ameisen-mimikry (Abh. theor. Biol. 19) 1925.

Colliuris African spp. pp. 280-301, key to subgen. p. 283, *Lasiocolliuris* p. 284, *Neocolliuris* p. 286, *Eucolliuris* p. 287, *Archicolliuris* p. 291, *Erectocolliuris* p. 292, *Protocolliuris* p. 293 subgen. n.; *lunata* p. 294, *flavipennis* p. 295 E. Africa, *cribrifrons* N. Rhodesia p. 296, *burgeoni* Belgian Congo p. 297 spp. n.; *laportei* Chaud. (= *Odacantha senegalensis* Cast.) p. 298, LIEBKE Rev. Zool. Bot. afr. 20.

Colpodes bilineatus p. 455, *lautulus* p. 457, *fuscus* p. 458, *klossi* p. 459, *porphyrodes* p. 461, *humilis* p. 463, *aeneolus* p. 464, *rubescens* p. 466, *microps* p. 467, *asthenes* p. 468, *abruptus* p. 469, *apotomus* p. 470, *olearis* p. 471, *sandalodes* p. 472, spp. n. Borneo figs., ANDREWES J. F.M.S. Mus. 16.—*C. circumdatus* p. 196, *knapperti* p. 197, spp. n. Sumatra, ANDREWES Zool. Meded. 13 1930.—*C.* key to Sumatran spp. p. 54, *euthemon* sp. n. Sumatra p. 68, ANDREWES op. cit. 14.

Coptolabrus pustulifer var. n. *szechwanensis* Szechwan p. 21, HAUSER Ent. Rdsch., Stuttgart 48.

Craspedophorus mannae sp. n. Sumatra p. 194, ANDREWES Zool. Meded. 13 1930.

Craspedozabrus subgen. n. see *Zabrus*.

Creagris bigemmis sp. n. Sumatra p. 70, ANDREWES Zool. Meded. 14.

Ctenodactyla elegantula sp. n. Amazonas p. 391, LIEBKE Ent. Anz. 11.—*C. cruciatus* see *Teukrus*.

Cychnus attenuatus subsp. n. *peristericus* Macedonia p. 74, ROUBAL Acta Soc. ent. Čech. 27 1930.

Cyclocarabus kurdistanicus sp. n. Armenia p. 78, EIDAM Wien. ent. Ztg. 48.

Cyclosomus collarti sp. n. Belgian Congo p. 307, BURGEON Rev. Zool. Bot. afr. 20.

Cymindis reichardti sp. n. Pamirs p. 49 fig., LUTSHNIK Abh. Pamir Exped. 1928 2 1930.

Desera crassa sp. n. Borneo p. 477 fig., ANDREWES J. F.M.S. Mus. 16.

Dicaelindus collinus sp. n. Borneo p. 447 fig., ANDREWES t.c.

Dicranoncus pocillator Bates from *Monacanthonyx* p. 528, ANDREWES Ann. Mag. N.H. (10) 7.

Dinopelma minor sp. n. Borneo p. 261 fig., LIEBKE Ent. Anz. 11.—*D. bouchardi* Plld., *virens* Andr. from *Hexagonia* p. 528, ANDREWES Ann. Mag. N.H. (10) 7.—*D. quadratum* p. 475, *angustum* p. 476, spp. n. Borneo figs., ANDREWES J. F.M.S. Mus. 16.

Diocarabus korschefskeyi sp. n. Siberia p. 79, EIDAM Wien. ent. Ztg. 48.

Diodercarus gen. n., *arrowi* sp. n. Irak p. 528, LUTSHNIK Ann. Mag. N.H. (10) 8.

Diplocheila exotica sp. n. Sumatra p. 66, ANDREWES Zool. Meded. 14.

Dolichoctis key to Sumatran spp. p. 62, ANDREWES t.c.—*D. constricticollis* p. 482, *bifasciatus* p. 483, spp. n. Borneo figs., ANDREWES J. F.M.S. Mus. 16.

Duvalius (*Pseudoduvalius* subgen. n. p. 127), *budae* subsp. n. *victori*, *lepsi* p. 129; *báznosanui* sp. n. p. 130 Rumania, MALLÁSZ Pub. Muz. jud. Hunedoara 25-26 1928; also 1^{er} Congr. nat. Naturalistes Roumanie 1928 1930 pp. 311-316.—*D. winklerianus* subsp. n. *aequalis* p. 52; *bensai* subsp. n. *straneoi* p. 54 Italy, JEANNEL Boll. Soc. ent. ital. 63.—*D. chicicarae* genitalia further described p. 134; *nannus* sp. n. Carpathians p. 135; *voilestii* ♂ p. 136 figs., JEANNEL Bul. Soc. Sti. Cluj 5 (2).—*D. wingelmülleri* p. 133, *baldensis* p. 135 larvae figs., BRASAVOLA DE MASSA Studi trentini 12.—*D. speiseri* subsp. n. *vlasiljensis* Montenegro p. 179, MÜLLER Atti Mus. Trieste 11.

Dyschirius biology of some spp. pp. 2-4, 41-46, DE BRUNIER Misc. ent. 33.—*D. impunctipennis* biology, distribution pp. 70-73, KROGERUS Mem. Soc. Fauna fenn. 5 1930.—*D. ferganensis* sp. n. p. 51; *nitidus* subsp. n. *alajensis* p. 52 Pamirs, ZNOJKO Abh. Pamirs Exped. 1928 2 1930.

Elaphrus davidis see *Paropisthius*.

Epomidozabrus subgen. n. see *Zabrus*.

Erectocolliuris subgen. n. see *Colliuris*.

- Eucolliuris* subgen. n. see *Colliuris*.
- Euryzabrus* subgen. n. see *Zabrus*.
- Furcacampa* subgen. n. see *Bembidion*.
- Galerita occidentalis* new to Argentina p. 330, GEMIGNANI Rev. Soc. ent. argent. 3.
- Haptoderotapinus* subgen. n. see *Pterostichus*.
- Harpalus* revision of Italian and Balkan spp. pp. 41-76, *veluchianus* sp. n. p. 50; *aeneus* subsp. n. *weiratheri* pp. 55, 73 Greece, MÜLLER Coleopt. Centralbl. 5.—*H. salinus* Dej. (= *Hypsinophus ellipticus* Bates) p. 527, ANDREWES Ann. Mag. N.H. (10) 7.—*H. modestus* ab. n. *impunctatus* Silesia p. 9, KOLBE Z. Ent. 17.—*H. rufitarsis* new to Sweden, PALM Ent. Tidskr. 51 1930; subsp. n. *dissitus* Morocco p. 20, ANTOINE Bull. Soc. Sci. nat. Maroc 11.—*H. karennius* see *Anisodactylus*.
- Hexagonia bouchardi*, *virens* see *Dinopelma*.
- Holcoderus puncticeps* sp. n. Sumatra p. 201, ANDREWES Zool. Meded. 13 1930.—*H. gloriosus* sp. n. Java p. 73, ANDREWES op. cit. 14.—*H. acripennis* sp. n. India p. 519, ANDREWES Ann. Mag. N.H. (10) 7.
- Hyparpalus indicus* sp. n. Sikkim, India p. 516, ANDREWES t.c.
- Hypolithus javanus* Gory notes p. 527, ANDREWES t.c.
- Hypsinophus ellipticus* see *Harpalus salinus*.
- Iberozabrus* subgen. n. see *Zabrus*.
- Idiastes* gen. n. p. 450, *alaticollis* (type), *costatus* spp. n. Borneo p. 451 figs., ANDREWES J. F.M.S. Mus. 16.
- Lachnophorus montoroi* sp. n. Uruguay p. 247, TREMOLERAS Rev. Soc. ent. argent. 3.
- Lachnotherax tokkia* Gestro (= *malayicus* Andr.) p. 528, ANDREWES Ann. Mag. N.H. (10) 7.
- Lasiocolliuris* subgen. n. see *Colliuris*.
- Lebia bifenestrata* ab. n. *obscura* Ussuri p. 7, JURČEK Ent. NachrBl. 5.
- Lionychus himalayicus* sp. n. India p. 522, ANDREWES Ann. Mag. N.H. (10) 7.
- Lobozabrus* subgen. n. see *Zabrus*.
- Macarozabrus* subgen. n. see *Zabrus*.
- Macrocheilus binotatus* sp. n. Sumatra p. 69, ANDREWES Zool. Meded. 14.
- Mastax latefasciatum* Annam p. 262, *hargreavesi* W. Africa p. 430, spp. n. fig., LIEBKE Ent. Anz. 11.
- Metabletus hastatus* sp. n. India p. 523, ANDREWES Ann. Mag. N.H. (10) 7.
- Micromaseus* see *Pterostichus* (*Americomaseus*).
- Microtrechus barberi* sp. n. N. Carolina p. 444 figs., JEANNEL Arch. Zool. exp. gén. 71.
- Monacanthonyx pocillator* see *Dicranoncus*.
- Neaphaenops intermedius* sp. n. Tennessee p. 249 fig., VALENTINE J. Elisha Mitchell Sci. Soc. 46.
- Nebria fuscipes* Fuss (= *fussi* Bielz., *reitteri* Ryb.) p. 24, JEDLIČKA Acta Soc. ent. Čech. 27 1930.—*N. paradisi* n. n. for *vandykei* Darlgt. nec Bänn. p. 24; *appalachia* sp. n. U.S.A. p. 153, DARLINGTON Psyche 38.—*N. mellyi* Gebl. (= *ledereri* Kind.) p. 116, KOLOSsov Ent. Bl. 27.
- Neocolliuris* subgen. n. see *Colliuris*.
- Neotrechus striatipennis* sp. n. Herzegovina p. 196, MÜLLER Atti Mus. Trieste 11.
- Nomaretus unistriatus* sp. n. N. Carolina p. 149, DARLINGTON Psyche 38.
- Notaphomimus* subgen. n. see *Bembidion*.
- Obadius affinis* sp. n. Uruguay p. 247, TREMOLERAS Rev. Soc. ent. argent. 3.
- Odacantha senegalensis* see *Colliuris laportei*.
- Oilea* gen. n. p. 389, *spinalis* sp. n. Brazil p. 390 fig., LIEBKE Ent. Anz. 11.
- Omobrus* gen. n. p. 199, *praetextus* sp. n. Sumatra p. 200, ANDREWES Zool. Meded. 13 1930.
- Omoperypus* subgen. n. see *Bembidion*.
- Oodes issus* sp. n. Borneo p. 444 fig., ANDREWES J. F.M.S. Mus. 16.
- Oopterus* see *Pseudoopterus*.
- Orictites* gen. n. p. 438, *minotaur* sp. n. Borneo p. 440 fig., ANDREWES J. F.M.S. Mus. 16.

Orotrechus longicornis subsp. n. *kalisi* Austria p. 194, MÜLLER Atti Mus. Trieste 11.

Orthogonius key to Sumatran spp. p. 58, *virgulatus* Borneo p. 71, *försteri* Sumatra p. 72, spp. n., ANDREWES Zool. Meded. 14.—*O. monolophus* sp. n. Borneo p. 479 fig., ANDREWES J. F.M.S. Mus. 16.

Paraduvalius marani sp. n. Macedonia p. 51 figs., KNIRSCH Sbornik ent. odd. Nár. Mus. Praha 8 1930.

Parena levata sp. n. Sumatra p. 77, ANDREWES Zool. Meded. 14.—*P. pendleburyi* sp. n. Borneo p. 484 fig., ANDREWES J. F.M.S. Mus. 16.

Paropisthius davidis Fairm. from *Elaphrus* p. 527, ANDREWES Ann. Mag. N.H. (10) 7.

Pericalus cordicollis sp. n. Borneo p. 480 fig., ANDREWES J. F.M.S. Mus. 16.

Perigona sulcatipennis sp. n. Sumatra p. 198, ANDREWES Zool. Meded. 13 1930.

Pheropsophus beckeri sp. n. China p. 122, JEDLIČKA Acta Soc. ent. Čech. 27 1930.

Physodera diglenus sp. n. Sumatra p. 202, ANDREWES Zool. Meded. 13 1930.

Planetes ruficollis Nietn. (= *immaculatus* Schaum), p. 528, ANDREWES Ann. Mag. N.H. (10) 7.

Platysma cupreum matthiesseni n. n. for *c. anaticolum* Sols. nec Chaud. p. 42; *leptoderum* subsp. n. *effrenum* Pamirs p. 43, LUTSCHNIK Abh. Pamir Exped. 1928 2 1930.

Polyhirma somereni sp. n. E. Africa p. 630 fig., BÉNARD Bull. Mus. Paris (2) 2 (1930).—*P. bénardi* n. n. for *zambesiana* Bén. nec Pér. p. 148, DE BASILEWSKY Bull. Ann. Soc. ent. Belg. 71.

Procerus gigas distribution pp. 141–145 [in Rumanian and German], MALLÁSZ Pub. Muz. jud. Hunedoara 25–26 1928.

Protocolluris subgen. n. see *Colliuris*.

Pseudonophthalmus hubbardi subspp. n. *limicola* p. 451, *parvicollis* p. 452 Virginia; *eremita* subspp. n. *stricticollis*, *morrisoni* Indiana p. 466 figs., JEANNEL Arch. Zool. exp. gén. 71.—*P. robustus*

p. 250, *hirsutus* p. 252, *humeralis*, *gracilis* p. 253, *higginbothami* p. 251, *grandis*, *fuscus* p. 254, *subaequalis* p. 255, *lödingeri* p. 252, spp. n.; *pusio* subsp. n. *punctatus* p. 250 U.S.A. figs., VALENTINE J. Elisha Mitchell Sci. Soc. 46.

Pseudhexatrachus subgen. n. see *Anisodactylus*.

Pseudoduvalius subgen. n. see *Duvalius*.

Pseudopteris n. n. for *Oopteris* Kirsch nec Guér. p. 225, CSIKI Col. Cat. 97 1928.

Pseudophonus spp. habits pp. 283–284, LESNE Bull. Soc. ent. Fr. 1931.—*P. griseus* swarming pp. 237–239, BUGNION Lambillionea 31.

Pterostichus (*Americomaseus* subgen. n. n. for *Micramaseus* Cas. nec Desbr.) p. 644, CSIKI Col. Cat. 112 1930.—*P. goschi*, *tenenbaumi* Siberia p. 22, (*Haptoderotapinus* subgen. n.) *matchai* Macedonia p. 23 spp. n.; *tenenbaumianus* n. n. for *tenenbaumi* Jed. nec Lutsch. p. 122, JEDLIČKA Acta Soc. ent. Čech. 27 1930.—*P. cupreus* ab. n. *caesicius* Ireland p. 53, DONISTHORPE Ent. Rec. 43.—*P. walkeri* p. 634, *selkirkii* p. 635, *skottsbergi* p. 636, spp. n. Juan Fernandez I. figs., ANDREWES Nat. Hist. Juan Fern. 3 (Zool.).—*P. uncarum* p. 155, *primus* p. 159, *carolinus* p. 162 (with subsp. n. *fumorum* p. 163) spp. n.; *mancus* subsp. n. *plethorus* p. 161 U.S.A., DARLINGTON Psyche 38.

Scaphinotus confusus sp. n. N. Carolina p. 146, DARLINGTON t.c.

Sloanelle n. n. for *Brachydema* Sloane nec Fairm. p. 224, CSIKI Col. Cat. 97 1928.

Sloanephila subgen. n. see *Bembidion*.

Sphaeroderus nitidicollis var. *schaumi* alimentary canal pp. 406–415 figs., SCHAEFER Ohio J. Sci. 31.—*S. multicarinatus* sp. n. U.S.A. p. 151, DARLINGTON Psyche 38.

Stenolophus liebmanni sp. n. Syria p. 76, MÜLLER Coleopt. Centralbl. 5.

Tachys blötei sp. n. Sumatra p. 193, ANDREWES Zool. Meded. 13 1930.—*T. bouchardi* sp. n. Sumatra p. 64, ANDREWES op. cit. 14.—*T. parvulus* subsp. n. *megalops* Hoggar p. 12 fig., DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.

Taphoxenus reichardti p. 39, *infans* p. 41, spp. n. Pamirs figs., LUTSCHNIK Abh. Pamir Exped. 1928 2 1930.

Tetragonoderus elegans sp. n. India p. 525, ANDREWES Ann. Mag. N.H. (10) 7.—*T. insularius* sp. n. Sumatra p. 76, ANDREWES Zool. Meded. 14.

Teukrus gen. n. for *Ctenodactyla cruciatus* Bates p. 360 fig., LIEBKE Ent. Anz. 11.

Trachysarus sericeus p. 632, *punctiger* p. 633, spp. n. Juan Fernandez I. figs., ANDREWES Nat. Hist. Juan Fern. 3 (Zool.).

Trechisibus femoralis var. n. *bäckströmi* Juan Fernandez I. p. 632, ANDREWES t.c.

Trechus jugivagus sp. n. Pamirs p. 38 fig., LUTSCHNIK Abh. Pamir Exped. 1928 2 1930.—*T. chalybaeus* subsp. n. *brachyderus* Montana p. 422; *coloradensis* subsp. n. *arcticollis* Idaho p. 428, *gravidulus* New Mexico p. 429; *beutenmülleri* p. 436, *schwarzi* p. 437 spp. n. N. Carolina figs., JEANNEL Arch. Zool. exp. gen. 71.—*T. tenuilimbatus* a sp. not subsp. of *tristiculus*; *pallidulus* subsp. n. *augusti* p. 49; *tristiculus* subsp. n. *dolomitatus*, *venetus* p. 50; *straneoi* sp. n. p. 52 Italy fig., JEANNEL Boll. Soc. ent. ital. 63.

Triaena see *Amara* (*Zerea*).

Trichisia nesites sp. n. Sumatra p. 65, ANDREWES Zool. Meded. 14.

Trichotichnus orinus sp. n. Borneo p. 445 fig., ANDREWES J. F.M.S. Mus. 16.

Trigonotoma lucida sp. n. Sumatra p. 195, ANDREWES Zool. Meded. 13 1930.—*T. verberifera* Schauf. (= *modesta* Heyne) p. 528, ANDREWES Ann. Mag. N.H. (10) 7.

Zabrus revision of Palaearctic spp. with keys pp. 1–55, *Macarozabrus*, *Aulacozabrus*, *Craspedozabrus* p. 3, *Lobozabrus*, *Epomidozabrus*, *Euryzabrus*, *Iberozabrus* p. 4 subgen. n., *vaulogeri* N. Africa p. 15, *angusticollis* Brussa p. 28, *heydeni* Kabyliya p. 40, *apfelbecki* Bosnia p. 41, *lycius* p. 46, *bodemeyeri* p. 47, *seriatus* p. 53 (with var. n. *splendens*) Asia Minor p. 54 spp. n.; *curtus* varr. n. *cantaber*, *catalonicus* p. 18, *intercalaris* p. 19 Spain; *castroi* varr. n. *panteli* Belgium p. 21, *escaleræ* Spain p. 22; *corpulentus* subsp. n. *armeniacus* Armenia, *ponticus*

Amasia p. 30; *aetolus* var. n. *erymanthius* N. Morea p. 36; *socialis* var. n. *werneri* Asia Minor; *albanicus* var. n. *latifianus* Albania p. 58; *aurichalceus* var. n. *schneideri* Alago p. 55, GANGLBAUER Koleopt. Rdsch. 17.

Zeactedium subgen. n. see *Bembidion*.

Zefea subgen. n. n. see *Amara*.

Zoocarabus erosus subsp. n. *karascharensis* China p. 80, EIDAM Wien. ent. Ztg. 48.

GNOSTIDAE.

Catalogue of Gnostidae, HETSCHKO Col. Cat. 108 1930 p. 1.

PAUSSIDAE.

Paussus elongatus p. 96, *horikawae* p. 97, spp. n. Formosa, KANO Kontyû 4 1930.

CUPESIDAE.

Cupes formosanus sp. n. Formosa p. 251 fig., TAMANUKI Mon. Mag. Zool., Tokyo 40 1928 [not seen].

HALIPLIDAE.

Contribution to the biology of the Haliplidae, HICKMAN Ann. Ent. Soc. Amer. 24 pp. 129–142.

Respiration of Haliplidae, HICKMAN Pap. Mich. Acad. Sci. 13 pp. 277–289, 4 figs.

Haliplidae of Abyssinian fresh waters, PEARCE Proc. Zool. Soc. Lond. 1931 pp. 31–32.

Haliplidae of Japan, TAKIZAWA Ins. mats. 5 pp. 137–143, 2 figs.

Haliplus key, *minutus* sp. n. Japan p. 140 fig., TAKIZAWA Ins. mats. 5.—*H. maculatus* Mots. (= *flavicollis* var. *russskyi* Stange) p. 116, KOLOSsov Ent. Bl. 21.

Peltodytes key p. 137, *koreanus* sp. n. Korea p. 138 fig., TAKIZAWA Ins. mats. 5.

DYTISCIDAE.

Notes on the larvae of Dytiscids of the Meinert collection, BERTRAND Ent. Medd. 17 pp. 286–305, 14 figs.

Report on Abyssinian Dytiscidae, OMER-COOPER Proc. Zool. Soc. Lond. 1931 pp. 751–801, 9 pls. 4 figs.

Notes on Dytiscidae collected in Northumberland and Durham in 1930, OMER-COOPER Vasculum 17 pp. 43–50.

Agabus field notes on Cumberland spp. pp. 12-16, DAY Ent. Mon. Mag. 67.—*A.* key to French subgen. p. 202, *Asternus* type *chalconotus* Panz., *Gabinectes* type *brunneus* F. subgen. n. p. 202, GUIGNOT Bull. Soc. ent. Fr. 1931.—*A. verus* sp. n. Manitoba p. 115, BROWN Canad. Ent. 63.—*A. solieri* var. n. *falcozi* France p. 7, GUIGNOT Misc. ent. 33.—*A. pallidus* sp. n. Abyssinia p. 786 figs., OMER-COOPER Proc. Zool. Soc. Lond. 1931.

Asternus subgen. n. see *Agabus*.

Bidessus geminus larva p. 71, BRASAVOLA DE MASSA Studi trentini 11 1930.—*B. megacephalus* Formosa p. 21, maculosus Amoy p. 462, spp. n., GSCHWENDTNER Ent. Anz., Vienna 11.—*B. major* subsp. n. *sellatus* Hoggar p. 20, DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.—*B. cacozelus, muluensis* p. 767, *shalensis* p. 770, *orarius* p. 772, *fufai* p. 774, *milkoii* p. 775, spp. n. Abyssinia figs., OMER-COOPER Proc. Zool. Soc. Lond. 1931.

Canthydrus morulus sp. n. Abyssinia p. 755 fig., OMER-COOPER t.c.

Clypeodytes ovatus sp. n. Abyssinia p. 765 fig., OMER-COOPER t.c.

Coelambus lautus Schaum (= *nigrovittatus* Evers.) p. 116, KOLOSSEV Ent. Bl. 27.

Copelatus asemus sp. n. Abyssinia p. 763 fig., OMER-COOPER Proc. Zool. Soc. Lond. 1931.

Cybister larval respiratory system pp. 433-467 figs., MUKERJI Arch. Zool. exp. gén. 70 1930.—*C. tripunctatus* revision of group pp. 65-70, 97-104, key p. 67; *regimbarti* E. Africa p. 97, *nebulosus* N. Rhodesia p. 98, *indicus* Madras p. 100, *incognitus* New Holland p. 103 spp. n.; *tripunctatus* subsp. n. *orientalis* Philippines p. 99 figs., GSCHWENDTNER Ent. Bl. 27.

Deronectes scotti, cooperi spp. n. Abyssinia p. 781 figs., OMER-COOPER Proc. Zool. Soc. Lond. 1931.

Dytiscus pisanus var. *mutinensis*, *ibericus* distribution p. 7, GUIGNOT Misc. ent. 33.

Gabinectes subgen. n. see *Agabus*.

Graptodytes lepidus var. *fauconneti* Pic (= ab. *oberthuri* Guignot) p. 1, Pic Echange 47.

Herophydrus inquinatus var. n. *pallidus* p. 778, *sobrinus* p. 779 Abyssinia figs., OMER-COOPER Proc. Zool. Soc. Lond. 1931.

Hydaticus nubivagus sp. n. Abyssinia p. 793 fig., OMER-COOPER t.c.

Hydroporus monograph of Palaearctic spp. pp. 97-159, ZIMMERMANN Koleopt. Rdsch. 17.—*H. elongatulus, longicornis* further descriptions pp. 147-158 figs. [in Swedish], FALKENSTRÖM Ent. Tidskr. 51 1930.—*H. optatus* subsp. n. *densatus* Hoggar p. 23, DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.—*H. melanocephalus, tartaricus* Lec. (= *pyrenaeus* Wehn.) notes, synonymy p. 5; *Neoporus* subgen. n. type *hebes* Fall; subgen. *Heterosternus* Zimm. (= *Sternoporus* Falk.) p. 47, GUIGNOT Misc. ent. 33.

Hydrovatus badius p. 760, *pescheti* p. 761, *mundus* (also Uganda) p. 762, spp. n. Abyssinia figs., OMER-COOPER Proc. Zool. Soc. Lond. 1931.

Hyphoporus rotundatus sp. n. Formosa p. 21, GSCHWENDTNER Ent. Anz., Vienna 11.

Hyphydrus fuscus sp. n. Abyssinia p. 764 fig., OMER-COOPER Proc. Zool. Soc. Lond. 1931.

Neoporus subgen. n. see *Hydroporus*.

Rhantus aulicus sp. n. Abyssinia p. 789 fig., OMER-COOPER Proc. Zool. Soc. Lond. 1931.—*R. pulverosus* ab. n. *seideli* Silesia p. 10, KOLBE Z. Ent. 17.

Sietitia status discussed pp. 245-246, *avenionensis* further description p. 243, GUIGNOT Bull. Soc. ent. Fr. 1931.

Sternoporus see *Hydroporus* (*Heterosternus*).

Yola assimilis sp. n. Abyssinia p. 776 figs., OMER-COOPER Proc. Zool. Soc. Lond. 1931.

GYRINIDAE.

Chinese Gyrinidae, OCHS Lingnan Sci. J. 7 pp. 715-720.

List of Gyrinidae of Sunda Is., with key and larval descriptions, OCHS Arch. Hydrobiol. Suppl. 8 pp. 461-485.

Gyrinidae of Japan, TAKIZAWA Ins. mats. 6 pp. 13-21.

Aulonogyrrus algoensis var. n. *rufiventris* Fr. Guinea p. 65, OCHS Annu. Mus. zool. Acad. Leningrad 31 1930.

Dineutes mellyi Rég. (= *insularis* Rég.) p. 16, TAKIZAWA Ins. mats. 6.—*D. assimilis* fright reactions to light pp. 31–41 fig., CLARK J. Exp. Zool. 58.

Gyrinus instabilis sp. n. Alaska p. 155, FALL Pan-Pacific Ent. 7.—*G. regimbarti* sp. n. Hoggar p. 25, DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.—*G. natator*, *substriatus* a species pair p. 236, OMER-COOPER Nature 127.—*G. natator*, *substriatus* discussed pp. 195–198; *opacus* var. *blairi* n. n. for o. var. *lecontei* Omer-Coop. nec Fall p. 239, OMER-COOPER Ent. Mon. Mag. 67.—*G. suspiciosus* sp. n. Mexico p. 68, OCHS Annu. Mus. zool. Acad. Leningrad 31 1930.—*G. curtus* f. n. *fulvescens* Japan p. 17, TAKIZAWA Ins. mats. 6.

Orectochilus formosanus sp. n. Formosa p. 19, TAKIZAWA t.c.

Orectogyrus posticalis sp. n. Tanganyika p. 67, OCHS Annu. Mus. zool. Acad. Leningrad 31 1930.

STAPHYLINIDAE.

Fauna of British India, Staphylinidae, II, CAMERON London, Taylor & Francis viii + 257 pp. 2 pls. 94 figs.

Staphylinidae from New Guinea in the S. Australian Mus., CAMERON Rec. S. Aust. Mus. 4 pp. 354–364.

Notes on some Staphylinidae from N. Africa, GRIDELLI Boll. Soc. ent. ital. 63 pp. 153–158, 1 fig.

Notes on German Staphylinidae, JACOBS Coleopt. Centralbl. 5 pp. 146–148.

List of Staphylinidae collected in Morocco and Spain, LINDBERG & BERNHAUER Comment. Biol. Soc. Sci. Fenn. 3 no. 12 pp. 1–29, 4 figs.

Staphylinidae of the Ionian and Peloponnesian Is., SCHEERPELTZ in BEIER SitzBer. Akad. Wiss. Wien Abt. 1 140 pp. 359–460, 3 pls. 10 figs.

Acamatusinella gen. n., *globuliventris* sp. n. Brazil p. 16 figs., BRUCH Rev. Ent. S. Paulo 1.

Acanthodonia brasiliensis p. 365, *bruchi*, *parvispina* p. 366, *denticulata* p. 367, spp. n. Brazil figs., BORGMEIER Rev. Ent. S. Paulo 1.

Actobius scotti p. 583, *silvaticus*, *silvestris* p. 584, spp. n. Abyssinia, BERNHAUER J. Linn. Soc. Lond. Zool. 37.

Aleochara (*Skenochara* subgen. n., type *squalithorax* Sharp) p. 795, BERNHAUER & SCHEERPELTZ Col. Cat. 82 1926.

Anthobium lindbergi sp. n. Spain p. 7, BERNHAUER Comment. Biol. Soc. Sci. Fenn. 3 no. 12.

Astenus key to Indian spp. pp. 65, 251, *suturalis* p. 69, *andrewesi* p. 71, *gratus* p. 72, *simlaensis* p. 74, *pulchripennis* p. 76, *marginalis* p. 77, *varians* p. 78, *flavipennis* p. 80, *obscurus*, *nilgiriensis* p. 82, *terminalis* p. 84, *semibrunneus* p. 87, *setiferus*, *peraffinis* p. 90 India, *ceylonicus* Ceylon p. 251 spp. n. figs., CAMERON Fn. Br. Ind. Col. Staphylinidae II 1931.—*A. modestus* sp. n. Abyssinia p. 576, BERNHAUER J. Linn. Soc. Lond. Zool. 37.—*A. marginalis* p. 357, *papuanus* p. 358, spp. n. New Guinea, CAMERON Rec. S. Aust. Mus. 4.

Astilbus tristis Luc. a subsp. of *memnonius* Maerk. p. 155, GRIDELLI Boll. Soc. ent. ital. 63.

Atheta, lengthened 6th ventral segment in male p. 148, JACOBS Coleopt. Centralbl. 5.—*A. lindbergi* sp. n. Spain p. 26, BERNHAUER Comment. Biol. Soc. Sci. Fenn. 3 no. 12.—*A. scottiana* p. 595, *altissima* p. 596, *amica*, *crateris* p. 597, *lobeliae* p. 598, *euphorbiae* p. 599, *scotti*, *haramaryana* p. 600, *silvestris*, *omeri* p. 601, *paludosa* p. 602, *zukulana* p. 603, *subcanaliculata* p. 604, spp. n. Abyssinia, BERNHAUER J. Linn. Soc. Lond. Zool. 37.—*A. key* p. 428, *kraneana* p. 426, *orosana* p. 430, *beieri* p. 436 Ionian Is., *voidiana* Peloponnesus p. 440, spp. n. figs., SCHEERPELTZ SitzBer. Akad. Wiss. Wien Abt. 1 140.—*A. nesslingi* new to Britain p. 11, WILLIAMS Ent. Mon. Mag. 67.

Attaxenus gen. n. p. 157, *horridus* sp. n. Brazil p. 158, WASMANN Ameisenmimikry (Abh. theor. Biol. 19) 1925.

Attonia gen. n. p. 52 (note), *hirta* sp. n. Brazil p. 53 (note), WASMANN t.c.

Belonuchus marginicollis sp. n. New Guinea p. 374, LEA Rec. S. Aust. Mus. 4.

Bledius biology of some spp. pp. 2–4, 41–46, DE BRUNIER Misc. ent. 33.—*B. fuscipes*, *tibialis*, biology, distribution pp. 70–73, KROGERUS Mem. Soc. Fauna fenn. 5 1930.—*B. lacustris* sp. n. Abyssinia p. 568, BERNHAUER J. Linn. Soc. Lond. Zool. 37.

Bolitochara reyi new to Britain p. 271, KEYS Ent. Mon. Mag. 67.

Cafius key to European and Mediterranean spp. p. 122, GRIDELLI Boll. Soc. ent. ital. 63.

Cephalochaetus rufus var. n. *fusciceps* India p. 223 fig., CAMERON Fn. Br. Ind. Col. Staphylinidae II 1931.

Cephaloptectus insignis p. 50, *quadriglumis*, *longiset*a p. 51, spp. n. Brazil [vix descr.], WASMANN Ameisenmimikry (Abh. theor. Biol. 19) 1925.

Cephaloxylum tricolor p. 423 (*Ponticulus* subgen. n.) *rambouseki* Cuba p. 424, spp. n. figs., BIERIG Rev. Ent. S. Paulo 1.

Charichirus key to Indian spp. p. 165, *pictipennis* Nilgiris sp. n. p. 166 figs., CAMERON Fn. Br. Ind. Col. Staphylinidae II 1931.—*C. lineifer* sp. n. New Guinea p. 369, LEA Rec. S. Aust. Mus. 4.

Conosoma doderoi sp. n. N. Italy p. 158, GRIDELLI Boll. Soc. ent. ital. 63.—*C. aethiopicum* sp. n. Abyssinia p. 588, BERNHAUER J. Linn. Soc. Lond. Zool. 37.

Coproporus lividipennis sp. n. Abyssinia p. 589, BERNHAUER t.c.—*C. papuanus* sp. n. New Guinea p. 363, CAMERON Rec. S. Aust. Mus. 4.

Crataraea eremita sp. n. Sahara p. 35, DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.

Cryptobium key to Indian spp. p. 226, *sikkimense* Sikkim p. 240, *bengalense* Bengal p. 244, *nilamburens*e Madras p. 248, spp. n. figs., CAMERON Fn. Br. Ind. Col. Staphylinidae II 1931.—*C. abessinum* p. 578, *uniforme* p. 579, spp. n. Abyssinia, BERNHAUER J. Linn. Soc. Lond. Zool. 37.

Cylindropsis doderoi see *Leptotyphlopsis*; *zariquieyi* see *Geomitopsis*.

Deubelia picina f. n. *nigrofemorata* Czechoslovakia p. 472, ROUBAL Kat. Col. Slov. Podkarp. 1930.

Dibelonetes indicus sp. n. India p. 63, CAMERON Fn. Br. Ind. Col. Staphylinidae II 1931.

Dinoxantholinus caeruleipennis, *lateralis* spp. n. New Guinea p. 359, CAMERON Rec. S. Aust. Mus. 4.

Diploeiton gen. n., *constrictum* sp. n. Brazil p. lxiii, WASMANN Tijdschr. Ent. 66 1923.

Dolicaon artus re-description p. 153 fig., GRIDELLI Boll. Soc. ent. ital. 63.—*D.* key to Indian spp. p. 217, *longipennis* sp. n. India p. 219, CAMERON Fn. Br. Ind. Col. Staphylinidae II 1931.

Domene key to Indian spp. p. 194, *femoralis* Assam p. 195, *birmana* Burma p. 196, spp. n., CAMERON t.c.

Doryloxenus myrmidon sp. n. Tunisia p. 124 fig., NORMAND Bull. Soc. ent. Fr. 1931.

Ecitobium gen. n., *zikani* sp. n. Brazil p. lxiii, WASMANN Tijdschr. Ent. 66 1923.

Ecitocryptus inopinatus sp. n. Brazil p. 363 figs., BORGMEIER Rev. Ent. S. Paulo 1.

Ecitolycus gen. n., *laticollis* sp. n. Brazil p. 76 [vix descr.], WASMANN Ameisenmimikry (Abh. theor. Biol. 19) 1925.

Ecitonilla impressicollis sp. n. Brazil p. lxii, WASMANN Tijdschr. Ent. 66 1923.

Ecitophytes gen. n., *coniceps* sp. n. Brazil p. lxii, WASMANN t.c.

Ecitoptectus gen. n., *transiens* sp. n. Brazil pp. 364, 482 figs., BORGMEIER Rev. Ent. S. Paulo 1.

Ecitopora nigrita, *zikani* spp. n. Brazil p. 52 [non descr.], WASMANN Ameisenmimikry (Abh. theor. Biol. 19) 1925.

Eleusis armuelliensis sp. n. Panama p. 426 fig., BIERIG Rev. Ent. S. Paulo 1.

Ennalagium key to Indian spp. p. 191, *assamense* sp. n. Assam p. 192 figs., CAMERON Fn. Br. Ind. Col. Staphylinidae II 1931.

Erichsonellus n. n. for *Erichsonius* Schub. nec Fauv. p. 391, BERNHAUER & SCHUBERT Col. Cat. 57 1914.

Erichsonius see *Erichsonellus*.

Euphytosus subgen. n. see *Phytosus*.

Exomedon gen. n., *andrewesi* sp. n. Nilgiris p. 126, CAMERON Fn. Br. Ind. Col. Staphylinidae II 1931.

Falagria abyssina sp. n. Abyssinia p. 594, BERNHAUER J. Linn. Soc. Lond. Zool. 37.

Geomitopsis gen. n. for *Cylindropsis zariquieyi* Dodero (type) p. 388, *beieri* sp. n. Ionian Is. p. 392 figs., SCHEERPELTZ SitzBer. Akad. Wiss. Wien Abt. 1 140.

Glenus aureicollis sp. n. ? Brazil p. 73 (note) [vix descr.], WASMANN Ameisenmimikry (Abh. theor. Biol. 19) 1925.

Glyphesthrus key to known spp. p. 85, *sanguinipennis* Mashonaland, *evansi* p. 86, *congoensis* p. 87 Belgian Congo spp. n., BERNHAUER Koleopt. Rdsch. 17.

Gnathopaederus see *Paederus* (*Paedrognathus*).

Hesperus vividus p. 360, *excelsus* p. 361, spp. n. New Guinea, CAMERON Rec. S. Aust. Mus. 4.—*H. quinquecolor* New Guinea, *gagativentris* p. 374, *bifuscipennis* p. 373 Papua, spp. n., LEA Rec. S. Aust. Mus. 4.

Homalota mortualis sp. n. Denmark p. 338, JOHANSEN Ent. Medd. (2) 4 1912.—*H. densicollis* sp. n. Abyssinia p. 591, BERNHAUER J. Linn. Soc. Lond. Zool. 37.

Hypselusa gen. n. p. 592, *scotti* sp. n. Abyssinia p. 593, BERNHAUER t.c.

Labidomimus gen. n., *petiolatus* sp. n. Brazil p. lxiii, WASMANN Tijdschr. Ent. 66 1923.

Labidosaurus gen. n., *lujae* sp. n. Brazil p. 49, WASMANN Ameisenmimikry (Abh. theor. Biol. 19) 1925.—*L.* further description p. 355, *crustaceus* sp. n. Brazil p. 356 figs., BORGMAYER Rev. Ent. S. Paulo 1.—*L. lujae* Wasm. (= *crustaceus* Borg.) p. 483, REICHENSBERGER in BORGMAYER t.c.

Lathrobium key to Indian spp. pp. 197, 252, *pustulatum* Assam, *kashmiricum* Kashmir p. 202, *brunneum* Sikkim p. 252, spp. n. figs., CAMERON Fn. Br. Ind. Col. Staphylinidae II 1931.—*L. hongkongense* sp. n. China p. 127, BERNHAUER Wien. ent. Ztg. 48.

Leptacinus micropterus p. 580, *cooperi*, *abessinus* p. 581, *aethiopicus* p. 582, spp. n. Abyssinia, BERNHAUER J. Linn. Soc. Lond. Zool. 37.

Leptoglossa see *Neoleptoglossa*.

Leptotyphlopsis gen. n. for *Cylindropsis doderoi* Razz. (type) p. 376, *leucadiana* p. 382, *kaligoniana* p. 384, *jonica* p. 386 spp. n. Ionian Is. figs., SCHEERPELTZ Sitzber. Akad. Wiss. Wien Abt. 1 140.

Leptotyphlus beieri p. 394, *aspericeps* p. 396, *micros* p. 399, spp. n. Ionian Is. figs., SCHEERPELTZ t.c.

Lesteva key p. 366, *graeca* sp. n. Peloponnesus p. 363 fig., SCHEERPELTZ t.c.

Lispinus longicornis ♀ p. 427, BIERIG Rev. Ent. S. Paulo 1.—*L. wagneri* sp. n. New Guinea p. 356, CAMERON Rec. S. Aust. Mus. 4.—*L. montanus* p. 565, *cooperi* p. 566, spp. n. Abyssinia, BERNHAUER J. Linn. Soc. Lond. Zool. 37.

Lobochilus Bernh. (= *Neosclerus* Cam.), key to Indian spp. p. 123, *assamensis* sp. n. Assam p. 126, CAMERON Fn. Br. Ind. Col. Staphylinidae II 1930.

Medome gen. n. p. 188, *bicolor* sp. n. Mussoorie p. 189 fig., CAMERON t.c.

Medon key to Indian spp. p. 130, *auripilis* Fauv. (= *thaxteri* Bernh.) p. 133; *proximus* Burma, Tenasserim p. 134, *siwalikensis* p. 136, *gratus*, *monticola* p. 143, *montivagans* p. 147, *andrewesi* p. 150, *nilgiriensis* p. 152 spp. n. India; *birmanus* Fauv. (= *asperulus* Cam.) p. 135; *cinnamopterus* Kr. (= *orientalis* Cam., *chatterjeei* Cam.) p. 138; *praeustus* var. n. *rubripennis* Chittagong p. 139; *stilicinus* n. n. for *Stilicinus lithocharoides* Cam. p. 149; *immsi* Bernh. (= *rubicundus* Cam.) p. 152 figs., CAMERON t.c.—*M. papuanus* sp. n. New Guinea p. 358, CAMERON Rec. S. Aust. Mus. 4.—*M. inconspicuus* New Guinea, *pictus* Papua, spp. n. p. 368, LEA Rec. S. Aust. Mus. 4.—*M. abessinus*, *montanellus* spp. n. Abyssinia p. 577, BERNHAUER J. Linn. Soc. Lond. Zool. 37.—*M. granulicollis* see *Pachymedon*.

Megarthrus key to European spp. p. 188, *strandii* sp. n. Oslo p. 185 fig., SCHEERPELTZ Koleopt. Rdsch. 17.—*M. abessinus* sp. n. Abyssinia p. 566, BERNHAUER J. Linn. Soc. Lond. Zool. 37.

Metoponcus apiciventris sp. n. Papua p. 369, LEA Rec. S. Aust. Mus. 4.

Mimeciton zikani sp. n. Brazil p. lxiii, WASMANN Tijdschr. Ent. 66 1923.

Mimophites praedatorius sp. n. Argentina p. 387 fig., BRUCH Rev. Ent. S. Paulo 1.

Neoleptoglossa n. n. for *Leptoglossa* Solsky p. 683, BERNHAUER & SCHEERPELTZ Col. Cat. 82 1926.

Neosclerus see *Lobochilus*.

Ocypus ater pupation cells p. 247, BLAIR Ent. Mon. Mag. 67.

Ocyusa key p. 450, *cephallenica* p. 445, *beieri* p. 448 Ionian Is., *densepunctata* Peloponnesus p. 447, spp. n. figs., SCHEERPELTZ SitzBer. Akad. Wiss. Wien Abt. I 140.

Oedichirus pyricollis sp. n. Papua p. 366; *cribripennis* n. n. for *geniculatus* Lea preocc. p. 367, LEA Rec. S. Aust. Mus. 4.—*O. dimidiatus* Epp. (= *elegans* Cam.) p. 27, CAMERON Fn. Br. Ind. Col. Staphylinidae II 1931.

Oligota minuta sp. n. Trinidad p. 82, CAMERON Ann. Mag. N.H. (10) 8.—*O. spectabilis* sp. n. Abyssinia p. 591, BERNHAUER J. Linn. Soc. Lond. Zool. 37.

Omalius caesum f. n. *flavicornis* Czechoslovakia p. 309, ROUBAL Kat. Col. Slov. Podkarp. 1930.

Osorius strigiceps sp. n. New Guinea p. 365, LEA Rec. S. Aust. Mus. 4.

Othius stötzneri sp. n. China p. 1, BERNHAUER Ent. NachrBl. 5.

Oxyroda key p. 455, *jonica* sp. n. Ionian Is. p. 453 fig., SCHEERPELTZ SitzBer. Akad. Wiss. Wien Abt. I 140.

Oxytelus aethiops sp. n. Abyssinia p. 367, BERNHAUER J. Linn. Soc. Lond. Zool. 37.—*O. grandiceps* sp. n. China p. 125, BERNHAUER Wien. ent. Ztg. 48.—*O. oblongifer* sp. n. New Guinea p. 365, LEA Rec. S. Aust. Mus. 4.

Pachymedon gen. n., *shugnuensis* p. 127, *assamensis* p. 128 spp. n. Assam; *granulicollis* Bernh. from *Medon* p. 127, CAMERON Fn. Br. Ind. Col. Staphylinidae II 1931.

Paederognathus subgen. n. n. see *Paederus*.

Paederus subgen. *Paederognathus* n. n. for *Gnathopaederus* Wend. nec Chap. p. 43, WENDELER Mitt. deuts. ent. Ges. 2.—*P. femoratus* sp. n. New Guinea p. 357, CAMERON Rec. S. Aust. Mus. 4.—*P. fruhstorferi* p. 37, *elegantulus* p. 39, *studdti*, *pentagonalis* Sunda Is. p. 38, *compactus* S. Africa p. 39, *gebieni* p. 40, *captus* Kamerun, *peruanus* p. 41, *andinus* p. 44 Peru, *basicornis*, *colonus* Fr. Congo p. 42, *imitator* Macassar p. 43, *germairei* p. 44, *elongatus* p. 46, *conicipennis* p. 47, *uangasanus* p. 48 Bolivia, *montanus* E. Africa p. 44, *ignotus* Abyssinia p. 45, *crassicollis*

Guatemala p. 46, *elegans* Paraguay p. 47, spp. n., WENDELER Deuts. ent. Z. 1931.—*P. alutiventris* p. 572, *arrowianus*, *niger* p. 573, *parcepunctatus*, *viridipennis* p. 574, spp. n. Abyssinia, BERNHAUER J. Linn. Soc. Lond. Zool. 37.—*P. chinensis* sp. n. China p. 1, BERNHAUER Ent. NachrBl. 5.—*P. micropterus* sp. n. Papua p. 367, LEA Rec. S. Aust. Mus. 4.—*P.* key to Indian spp. p. 34, *almorensis* p. 49, *germanus* p. 51, *distinctus* p. 57, *diversiceps* p. 61 India, *greeni* p. 53, *taprobanus* p. 61 Ceylon, spp. n., CAMERON Fn. Br. Ind. Col. Staphylinidae II 1931.

Palaminus key to Indian spp. p. 21, *nigropiceus* p. 22, *rufus*, *nilgiriensis* p. 23, *andrewesi* India, *monticola* Ceylon p. 24, *birmanus* Burma p. 23, spp. n., CAMERON t.c.

Paraphytosus see *Phytosus*.

Pheidoloxenides gen. n., *dampfi* sp. n. Mexico p. 122, WASMANN Ameisen-mimikry (Abh. theor. Biol. 19) 1925.

Philonthus intermedius ab. n. *greipfi* Silesia p. 11, KOLBE Z. Ent. 17.—*P. interantennalis* p. 370, *castaneicollis*, *pauper* New Guinea p. 371, spp. n., LEA Rec. S. Aust. Mus. 4.—*P. emdeni* sp. n. China p. 2, BERNHAUER Ent. NachrBl. 5.—*P. bicoloratus* p. 361, *papuanus*, *mcnamarae* p. 360, spp. n. New Guinea, CAMERON Rec. S. Aust. Mus. 4.—*P. fuscus syrovatkaei* new to Britain p. 81, EDMONDS Ent. Mon. Mag. 67.—*P. arrowianus*, *incognitus* (with subsp. n. *kristenseni*), *subaeneicollis* p. 585, *scotti*, *monticola* p. 586, spp. n. Abyssinia, BERNHAUER J. Linn. Soc. Lond. Zool. 37.—*P. crebrior* p. 129, *hongkongensis*, *sulciceps* p. 130, spp. n. China, BERNHAUER Wien. ent. Ztg. 48.

Phloeocharis key p. 361, *beieri* sp. n. Ionian Is. p. 360 fig., SCHEERPELTZ SitzBer. Akad. Wiss. Wien Abt. I 140.

Phloeonomus papuanus sp. n. New Guinea p. 356, CAMERON Rec. S. Aust. Mus. 4.

Phucobius densipennis sp. n. Riu-Kiu I. p. 131, BERNHAUER Wien. ent. Ztg. 48.

Phytosus (*Euphytosus* subgen. n.n. for *Paraphytosus* Bernh. nec Cam.) p. 552, BERNHAUER & SCHEERPELTZ Col. Cat. 82 1926.

Pinophilus key to Indian spp. p. 3, *indicus* India p. 7, *vicinus* locality unknown, *malabarensis* Malabar p. 11, *ceylonicus* Ceylon p. 17, spp. n., CAMERON Fn. Br. Ind. Col. Staphylinidae II 1931.

Plociopterus atticida p. 71 (note), *goldii* p. 72 (note), spp. n. Brazil, WASMANN Ameisenmimikry (Abh. theor. Biol. 19) 1925.

Ponticulus subgen. n. see *Cephaloxylum*.

Priochirus wagneri sp. n. New Guinea p. 355, CAMERON Rec. S. Aust. Mus. 4.

Pronomaea corticalis (with var. n. *silvatica* p. 591) sp. n. Abyssinia p. 590, BERNHAUER J. Linn. Soc. Lond. Zool. 37.

Proteinus revision of Palaearctic spp. pp. 175-190, key p. 188 figs., SJÖBERG Ent. Tidskr. 51 1930.

Quedius flavescens niger Porta (= f. *africanus* Peyer.) p. 12, DE PEYERIMHOFF Ann. Soc. ent. Fr. 100.—*Q. fuliginosus* ab. n. *badius* Silesia p. 137, SCHOLZ Coleopt. Centralbl. 5.

Scimbalium key to Indian spp., *brunneum* sp. n. p. 213; *indicum* var. n. *nigriceps* p. 214 India, CAMERON Fn. Br. Ind. Col. Staphylinidae II 1931.

Scopaeus key to Indian spp. p. 170, *andrewesi* p. 172, *obscuripes* p. 173, *nitiduloides* p. 175, *fulvus*, *germanus* p. 179, *orbiceps* p. 183, *monticola* p. 184, *lucidus*, *beesoni* p. 185, *humilis* p. 186, spp. n. India figs., CAMERON t.c.—S. British spp. pp. 272-275, EDMONDS Ent. Mon. Mag. 67.—S. key p. 413, *boops* sp. n. Corfu p. 411 fig., SCHEERFELTZ SitzBer. Akad. Wiss. Wien Abt. 1 140.

Sipalotricha gen. n. p. 420, *leucadiae* sp. n. Ionian Is. p. 423 figs., SCHEERFELTZ t.c.

Skenochara subgen. n. see *Aleochara*.

Staphylinus spp. genitalia p. 79 figs., HANSEN Flora og Fauna 1931.—*S. aeneocephalus*, *cupreus* in Britain p. 108, EDMONDS Ent. Mon. Mag. 67.—*S. sericeomicans* sp. n. China p. 2, BERNHAUER Ent. NachrBl. 5.

Stenus spp. collected in Morocco and Spain pp. 1-4, BENICK Comment. Biol. Soc. Sci. Fenn. 3 1930 no. 10.—*S.* key p. 405, *beieri* Peloponnesus p. 402, *leucadiae* Ionian Is. p. 407 spp. n. figs.,

SCHEERFELTZ SitzBer. Akad. Wiss. Wien. Abt. 1 140.—*S. zukwalanus* p. 569, *opaculus*, *cooperi* p. 570, *scotti* p. 571, *altissimus* p. 572, spp. n. Abyssinia, BERNHAUER J. Linn. Soc. Lond. Zool. 37.—*S. chinensis* p. 125, *walkeri* p. 126 (with var. n. *orientalis* p. 127), spp. n. China, BERNHAUER Wien. ent. Ztg. 48.—*S. cribricollis* sp. n. New Guinea p. 366, LEA Rec. S. Aust. Mus. 4.—*S. gigas* sp. n. New Guinea p. 32, BENICK N. Beitr. syst. Insektenk. 5.—*S. iniquus* Pulo Penang p. 138, *stil-latus* p. 140, *thoracicus* p. 143 Burma, *mimus* Sumatra p. 141, spp. n., BENICK Wien. ent. Ztg. 48.—*S. renominatus* n. n. for *aeratus* Cam. preocc.; *castigator* n. n. for *lugubris* Cam. preocc.; *correctus* n. n. for *frater* Cam. preocc. p. iii, CAMERON Fn. Br. Ind. Col. Staphylinidae II 1931.

Stilicoderus keys to Indian spp. pp. 110, 251, *minor* sp. n. Bengal p. 252, CAMERON t.c.

Stilicopsis key to Indian spp. p. 92, *flavipennis* p. 96, *indica*, *pallida* p. 98, spp. n. India, CAMERON t.c.

Stilicus key to Indian spp. p. 102; *gracilis* Epp. (= *praelongus* Cam.) p. 104; *simlaensis* p. 106, *pavus* p. 109 spp. n. India figs., CAMERON t.c.—*S. lithocharoides* see *Medon stilicinus*.

Tachyporus cooperi sp. n. Abyssinia p. 588, BERNHAUER J. Linn. Soc. Lond. Zool. 37.

Tachyusa abyssina p. 594, *longicollis* p. 595, spp. n. Abyssinia, BERNHAUER t.c.

Thinoharis key to Indian spp., *birmana* Burma, Tenasserim p. 118, *debilis*, *nigrescens* p. 119, *ruficollis* p. 120 India, spp. n., CAMERON Fn. Br. Ind. Col. Staphylinidae II 1931.

Triacrus key to allied genera p. 84, BERNHAUER Koleopt. Rdseh. 17.

Typhloiulopsis gen. n. p. 370, *rudiana* (type) p. 374, *leucadiae* p. 375, spp. n. Ionian Is. figs., SCHEERFELTZ SitzBer. Akad. Wiss. Wien Abt. 1 140.

Xantholinus abessinus sp. n. Abyssinia p. 582, BERNHAUER J. Linn. Soc. Lond. Zool. 37.—*X. semipallidus* sp. n. China p. 128, BERNHAUER Wien. ent. Ztg. 48.

Xenobius gen. n. p. 358, *rotundiceps* sp. n. Brazil p. 360 figs., BORGMAYER Rev. Ent. S. Paulo 1.

Xenocephalus brevicornis, splendidus spp. n. Brazil p. 56 (note), WASMANN Ameisenmimikry (Abh. theor. Biol. 19) 1925

PSELAPHIDAE.

Fustiger schmidtii p. 4, *insignis* p. 6, spp. n. Costa Rica figs., REICHENSPERGER Ent. Bl. 27.—*F. oglobini* sp. n. Argentina p. 389 fig., BRUCH Rev. Ent. S. Paulo 1.

Mitracephala see *Mitrametopus*.

Mitrametopus n. n. for *Mitracephala* Raffr. p. 50, RAFFRAY Col. Cat. 27 1911.

Reichenbachia juncorum Leach (= *cloueti* Guilleb.) p. 185, DE PEYERIMHOFF Abeille 31 1923.

SCYDMAENIDAE.

Cephennium pallida sp. n. England p. 272, EDMONDS Ent. Mon. Mag. 67.—*C. edmondsi* sp. n. England p. 176, DONISTHORPE Ent. Mon. Mag. 67.

Euthia Czechoslovakian spp., *linearis* var. n. *cylindricornis* Czechoslovakia sep. p. 3, ROUBAL Sborn. Přírod. odboru Slovensk. vlastiv. Mus. Bratislava 1924-31.

Napochus claviger, pragensis distinct spp. p. 20 figs., BLATTNÝ Acta Soc. ent. Čech. 27 1930.

Neuraphes miriceps Bulgaria p. 124, *rambouseki* Yugoslavia p. 126, spp. n., MACHULKA Acta Soc. ent. Čech. 27 1930.

Stenichnus achillei Reitt. (= *ferrugineus* Guilleb.) p. 185, DE PEYERIMHOFF Abeille 31 1923.

SILPHIDAE (LEPTINIDAE,

CATOPOCHROTIDAE).

Some Silphidae from Sweden, GAUNTZ Ent. Tidskr. 51 1930 pp. 263-265.

List of Silphids from Pamirs, KIESERTZKY Abh. Pamir Exped. 1928 2 1930 pp. 59-63.

Agyrtes bicolor fig. p. 77, HARDOUIN Bull. Soc. Sci. Seine-et-Oise Versailles (2) 12.

Antroherpon albanicum subsp. n. *remyi* Yugoslavia p. 265, JEANNEL Bull. Soc. zool. Fr. 56.

Aphaobius milleri subspp. n. *forojulensis, longipennis* Austria; (*Pretneria* subgen. n.) *latitarsis* sp. n. Italy p. 198, key to allied genn. p. 203 figs., MÜLLER Atti Mus. Trieste 11.

Bathysciola breviclavata sp. n. Austria p. 197, MÜLLER t.c.—*B. (Hartigia) subgen. n.) baldensis* sp. n. Monte Baldo p. 188 figs., MÜLLER Studi trentini 9 1928.—*B. bergamasea* subsp. n. *binaghii* Italy p. 54, JEANNEL Boll. Soc. ent. ital. 63.

Blattochaeta remyi sp. n. Yugoslavia p. 258 figs., JEANNEL Bull. Soc. zool. Fr. 56.

Catops revision of Scandinavian spp. pp. 1-25, key p. 5, *luteipes* Thoms. (= *brunneipennis* Sahlb.); *morio* F. (= *lapponicus* Sahlb., *substriatus* Reitt.), *laticollis* Sahlb. a var. of p. 3; *Dreposcia* Jeann., *Sciodrepa* Thoms. subgenn. p. 5; *Munsteria* subgen. n. p. 10; *westi* p. 13, *sinuatipes* p. 17 spp. n.; *fuliginosus* subsp. n. *borealis* p. 4 Denmark, etc. figs., KROGERUS Notul. ent. 11.

Choleva spp. of Holland and adjoining regions pp. 187-229 figs., VAN DER WIEL Tijdschr. Ent. 74.—*C. paskoviensis* subsp. n. *tenenbaumii* Poland p. 214; *nivalis* var. *pozi* Roub. (= *bicolor* Jeann.) p. 217, ROUBAL Wien. ent. Ztg. 48.—*C. falklandica* see *Falkocholeva*.

Dreposcia see *Catops*.

Falkocholeva gen. n. for *Choleva falklandica* Waterh. p. 208, HATCH Col. Cat. 95 1928.

Hartigia subgen. n. see *Bathysciola*.

Munsteria subgen. n. see *Catops*.

Nargus velox distribution Finland pp. 37-40 figs., KONTKANEN Notul. ent. 11.

Necrophorus key p. 61; *sepultor* var. n. *reichardti* Pamirs p. 60; *baeckmanni* sp. n. Siberia p. 64, KIESERTZKY Abh. Pamir Exped. 1928 2 1930.

Neobathyscia antrorum larva p. 221 figs., BRASAVOLA DE MASSA Studi Trentini 12.

Oceoptoma thoracica biology, larval morphology pp. 691-706 figs., HEYMONS & Lengerken Z. Morph. Oekol. Tiere 20.

Orostygia pretneri sp. n. Austria p. 204, MÜLLER Atti Mus. Trieste 11.

Pretneria subgen. n. see *Aphaobius*.

Remyella gen. n. p. 260, *scaphoides* sp. n. Yugoslavia p. 263 figs., JEANNEL Bull. Soc. zool. Fr. 56.

Sciodrepa see *Catops*.

Sophrochaeta mallaszi subsp. n. *retezati* Rumania p. 135, MALLÁSZ Pub. Muz. jud. Hunedoara 25-26 1928; also 1^{er} Congr. nat. Naturalistes Roumanie 1928 1930 p. 326.—*S. globosa* ♂ p. 136; *longicornis* p. 137, *obtusa* p. 138 spp. n.; *subaspera* subsp. n. *arcti-collis* p. 139; *olienica* subsp. n. *dense-punctata* p. 140 Carpathians figs., JEANNEL Bul. Soc. Sti. Cluj 5 (2).

Spelaebates pharensis subsp. n. *langhofferi* Austria p. 205, MÜLLER Atti Mus. Trieste 11.

Tismanella winkleriana sp. n. Carpathians p. 141 fig., JEANNEL Bul. Soc. Sti. Cluj 5 (2).

LIODIDAE.

Hydnobius spinipes new to Britain p. 33, DONISTHORPE Ent. Rec. 43.

SPHAERIIDAE.

Catalogue of Sphaeriidae, SCHENK-LING Col. Cat. 117 2 pp.

TRICHOPTERYGIDAE (PTILIIDAE).

Actinopteryx colossus New Caledonia p. 232, *hercules* New South Wales p. 233, spp. n. figs., LEA Proc. Linn. Soc. N.S.W. 66.

Epibaptus gen. n., *scutellaris* sp. n. Victoria p. 228 figs., DEANE Proc. Linn. Soc. N.S.W. 66.

Etronia gen. n., *convexa* sp. n. Queensland p. 231 figs., DEANE t.c.

Isolumpia gen. n. p. 230, *divina* sp. n. Papua p. 231 fig., DEANE t.c.

Myrmecotrichis acutangula sp. n. Fiji p. 237 fig., DEANE t.c.

Neotrichopteryx gen. n. p. 237, *gran-delytra* sp. n. Lord Howe I. p. 238 fig., DEANE t.c.

Paratuposa gen. n., *placentis* sp. n. Papua p. 229 fig., DEANE t.c.

Philagarica parva sp. n. Lord Howe I. p. 241, DEANE t.c.

Ptenidium hughesae p. 241, *otfordensis* p. 242, spp. n. New South Wales figs., DEANE t.c.

Ptilium torresensis Torres Straits p. 238, *flavoternum* New Caledonia, *latum* Fiji p. 239, spp. n. figs., DEANE t.c.

Trichopteryx flavipennis Fiji, *norfolk-ensis* Norfolk I., *sydneyensis* p. 234, *cervina* p. 235, *walkomi* New South Wales, *jocosa* Papua p. 236, spp. n. figs., DEANE t.c.

SCAPHIDIIDAE.

Antongilium humerale sp. n. Angola p. 420, Pto Rev. suisse Zool. 38.

Cyparium minutum Jamaica, *testa-ceicorne* Bolivia, *rufohumerale* Brazil, *nigronotatum* Peru, spp. n. p. 2, Pto Mél. exot.-ent. 57.

Heteroscapha testaceum sp. n. Java p. 3, Pto t.c.

Pseudoscaphosoma basipenne sp. n. Tenasserim p. 58, Pto Sbornik ent. odd. Nár. Mus. Praze 8 1930.

Scaphidiolum binigronotatum Congo, *bilineatithorax* Tonkin, *bolivianum* Bolivia, spp. n. p. 1, Pto Mél. exot.-ent. 57.

Scaphosoma banosense sp. n. Luzon p. 3, Pto t.c.—*S. helferi* sp. n. Tenasserim p. 58, Pto Sbornik ent. odd. Nár. Mus. Praze 8 1930.

Toxidium robustum sp. n. Tenasserim p. 58, Pto t.c.

HISTERIDAE.

Histeridae collected in Tripolitania and Tunisia, MÜLLER Mem. Soc. ent. ital. 10 pp. 93-104.

List of Histerids from Pamirs, REICHAARDT Abh. Pamir Exped. 1928 2 1930 pp. 1-26, 3 figs.

Catalogue of Niponiidae, SCHENK-LING Col. Cat. 117 2 pp.

List of Histerids from Sunda Is., SCHLEICHER Arch. Hydrobiol. Suppl. 8 pp. 593-595.

Abraeus tuberosus sp. n. Tonkin p. 279, DE COOMAN Bull. Soc. ent. Fr. 1931.

Chronus calceatus sp. n. Tonkin p. 204, DE COOMAN t.c.

Chrysetaerius iheringi anatomy, histology 64 pp. figs., SEYFRIED Contr. Myrmecophily 2 (Thesis Fribourg Univ.) [1928].

Discoscelis canaliculata further description p. 391 fig., BRUCH Rev. Ent. S. Paulo 1.

Ecitonister borgmeieri sp. n. Brazil p. 268 fig., REICHENSPERGER Zool. Jahrb., Syst. 61.

Euxenister breyeri sp. n. Argentina p. 392 figs., BRUCH Rev. Ent. S. Paulo 1.

Homalopygus fidelis sp. n. Brazil p. 266 fig., REICHENSPERGER Zool. Jahrb., Syst. 61.

Mesynodites spp. myrmecophily pp. 263-284; (*Metasynodites*) *minor* p. 269, *longipilus* p. 270, *virgatus* p. 272, *strigilatus* p. 274, *scaber* p. 275, *schwarzmaieri* p. 277, *exclamationis* p. 279, *speculum* p. 280, *affinis* p. 283 spp. n.; *maior* var. n. *crassicornis* p. 282 Brazil figs., REICHENSPERGER t.c.

Nicotikis sulcicauda sp. n. Sumatra p. 594, SCHLEICHER Arch. Hydrobiol. Suppl. 8.

Onthophilus kamiyai sp. n. Japan p. 250, ADACHI Kontyû 4 1930 [not seen].

Philothis atavus sp. n. Bucharja p. 308 figs., REICHARDT C.R. Acad. Sci. U.R.S.S. (A) 1931.

Platysaprinus zikani var. n. *daguerrei* Argentina p. 390, BRUCH Rev. Ent. S. Paulo 1.

Plegaderus haraldi sp. n. Sweden p. 191 fig., JANSSON Ent. Tidskr. 51 1930.

Saprinus angoranus notes Czechoslovakia p. 137, LABLER Acta Soc. ent. Čech. 27 1930.—*S. schmidtianus* subsp. n. *pamiricus* p. 10; *austerus* sp. n. p. 15 Pamirs figs., REICHARDT Abh. Pamir Exped. 1928 2 1930.—*S. aeneus* var. n. *therondi* France p. 60, AUZAT Misc. ent. 33.—*S. furvus* var. n. *cabanesi* France p. 60, THÉROND Misc. ent. 33.

TROGOSITIDAE.

Nemosoma caucasicum Mén. (= *curtulum* FURSSOV) p. 116, KOLOSSOV Ent. Bl. 27.

HELOTIDAE.

Neohelota miwai sp. n. Formosa p. 136, OHTA Ins. mats. 5.

NITIDULIDAE.

Cybocephalus normandi, *palmarum* spp. n. N. Africa p. 2 figs., DE PEYERIMHOFF Ann. Soc. ent. Fr. 100.

Glischrochilus fasciatus Oliv. (= *geminatus* Melsh., *quadriguttatus* F. part); *quadrisignatus* Say (= *bipustulatus* Melsh., *quadriguttatus* F. part); key for separation of *fasciatus* and *quadrisignatus*, genitalia p. 30 figs., SIEPMANN Bull. Brooklyn Ent. Soc. 26.

Norosia subgen. n. see *Soronia*.

Pallodes plateosus sp. n. Arizona p. 174, SCHAEFFER Bull. Brooklyn Ent. Soc. 26.

Rhizophagus dispar ab. n. *catonii* Monte Baldo p. 73, BRASAVOLA DE MASSA Studi trentini 11 1930.

Soronia (*Norosia* subgen. n.) p. 149, PORTEVIN Encyc. ent. A 13.

Xenostrogylus ovulum subsp. n. *palaestinis* Palestine p. 133 fig., AMSEL & HERING Deuts. ent. Z. 1931.

CUCUJIDAE (HEMIMEPLIDAE).

Catalogue of Cucujidae, HETSCHKO Col. Cat. 109 1930 pp. 1-122.

Airaphilus montis-atrici sp. n. Hoggar p. 54, DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.

Cucujus clavipes var. n. *subnitens* U.S.A. p. 175, SCHAEFFER Bull. Brooklyn Ent. Soc. 26.

Oryzaephilus surinamensis symbiosis pp. 389-424 figs., KOCH Z. Morph. Oekol. Tiere 23; origin and development of symbiotic organs pp. 1-16 figs., PIERANTONI Atti Acc. Sci. fis. mat. Napoli (2) 18 no. 4 1930.

Silvanus surinamensis see *Oryzaephilus*.

Telephanus revision of Centr. and S. American spp. pp. 102-160, 161-187, key p. 117, *assmanni* p. 122, *ruficollis* p. 129, *guanacasteco* p. 133, *melanchlorus* p. 138, *grossicornis* p. 139, *juvencus* p. 141, *humeralifer* p. 142, *turrialbensis* p. 146, *applanatus* p. 149, *serratus* p. 161, *costaricensis* p. 163 (with var. n. *nigricornis*), *nigroflavus* p. 177, *scabrosicollis* p. 167, *longulus* p. 170, *horridus* p. 175, *diabolicus* p. 182 Costa Rica, *kuntzeni* p. 131, *hirsutus* p. 134, *bucephalus* p. 155, *glycerius* p. 157, *flohri* p. 177, *basiliscus* p. 184 Mexico, *schwarzi* p. 147, *panamensis* p. 171, *barberi* p. 178, *buphtthalmus* p. 179 Panama, *silvestris* Guatemala p. 150 spp. n.; *setulosus* p. 172, *sellatus* p. 174, *paradoxus* p. 180 further descriptions figs., NEVERMANN Stett. ent. Z. 92.—*T. costaricensis* larva pp. 113-117 figs., VAN EMDEN Stett. ent. Z. 92.

PHALACRIDAE.

Catalogue of Phalacridae, HETSCHKO Col. Cat. 108 1930 pp. 1-48.

Olibrus millefolii larva pp. 39-42,
URBAN Mitt. deuts. ent. Ges. 2 pp.
39-42.

THORICIDAE.

Supplement to catalogue of Thoric-
tidae, HETSCHKO Col. Cat. 109 1930
p. 1.

Thorictus martinsi sp. n. p. 95;
foreli var. n. *nigroides* p. 98 Portugal,
WASMANN Ameisenmimikry (Abh. theor.
Biol. 19) 1925.—*T. grandiceps* sp. n.
Egypt p. 134, PIC Bull. Soc. ent.
Egypte 1931.

LATHRIDIIDAE.

Lithostygnus serripennis in England
p. 198, STOTT Ent. Mon. Mag. 67.

MYCETOPHAGIDAE.

Catalogue of Mycetophagidae,
HETSCHKO Col. Cat. 108 1930 pp. 1-26.

COLYDIIDAE (COSSYPHODIDAE) (includ-
ing DISCOLOMIDAE).

Catalogue of Colydiidae, HETSCHKO
Col. Cat. 107 1930 124 pp.

Catalogue of Jacobsoniidae, HETSCH-
KO Col. Cat. 108 1930 p. 1.

Supplement to catalogue of Cossy-
phodidae, HETSCHKO Col. Cat. 109 1930
p. 1.

Discoloma correction to key in Ent.
Bl. xxvi p. 114, p. 48, NEVERMANN Ent.
Bl. 27.

CRYPTOPHAGIDAE.

Keys to Cryptophagidae of France
(contd. and end), FALCOZ Misc. ent. 33
sep. pp. 145-197.

Atomaria atilla f. n. *flavicolor*
Czechoslovakia p. 184, ROUBAL Ent.
Bl. 27.

Cryptophagus dentatus ab. n. *major*
England p. 14, DONISTHORPE Ent. Rec.
43.

EROTYLIDAE.

Ischyryus quadripunctatus var. n.
alabamiae Alabama p. 175, SCHAEFFER
Bull. Brooklyn Ent. Soc. 26.

ENDOMYCHIDAE.

Contribution to the knowledge of the
Endomychidae of Japan, OHTA J. Fac.
Agric. Hokkaido Imp. Univ. 30 pp.
205-242, 1 pl.

Amphix singularis Colombia, *semio-
pacus* p. 6, *inhumeralis* p. 8, *diversipes*
Brazil, *subapicalis* p. 7, *foveclatus* p. 6
Fr. Guiana, *grandjeani* Venezuela,
boliviensis Bolivia, spp. n.; *punctatus*
var. n. *reductus* Peru p. 8; *dentatus*
var. n. *multimaculatus* Colombia p. 7,
PIC Mél. exot.-ent. 58.

Brachytrycherus mushanus sp. n. For-
mosa p. 216 fig., OHTA J. Fac. Agric.
Hokkaido Imp. Univ. 30.

Ectomychus tappanus sp. n. Formosa
p. 230 fig., OHTA t.c.

Encymon ruficephalus (with f. n.
4-punctatus p. 223) sp. n. Formosa p.
221 fig., OHTA t.c.—*E. limbatus* Queens-
land, *malaccanus* Malacca, spp. n. p. 5,
PIC Mél. exot.-ent. 58.

Engonius baibaranus, *taitoensis* For-
mosa p. 219, *konumaensis* Japan p. 220,
spp. n. figs., OHTA J. Fac. Agric. Hok-
kaido Imp. Univ. 30.

Epotheus vicinus, *geniculatus* Bo-
livia, *bifasciatus* Venezuela spp. n. p. 9;
ocellatus var. n. *differens* Bolivia p. 10,
PIC Mél. exot.-ent. 58.

Mycetina tonkina sp. n. Tonkin p. 5,
PIC t.c.

COCCINELLIDAE.

Notes on some Coccinellids, CAPRA
Boll. Soc. ent. ital. 63 pp. 15-20, 4 figs.

Notes on mycophagous Psyllo-
borini, DA COSTA LIMA Rev. Ent. S.
Paulo 1 pp. 427-430.

Some Coccinellidae from Sweden,
GAUNITZ Ent. Tidskr. 51 1930 pp. 265-
267.

Catalogue of Coccinellidae, I, KOR-
SCHEFSKY Col. Cat. 118 pp. 1-224.

Revision of Palaearctic Coccinellids
[contd.], MADER Z. Ver. Naturbeobach.
6 sep. pp. 169-204, 10 pls. 2 figs.

Annotated list of Coccinellidae from
Bukovina, MAROU Bull. Acad. Rou-
manie 13 1930 pp. 260-264.

Coccinellidae of Minnesota, STEHR
Tech. Bull. Minnesota Agric. Expt. Sta.
75 1930 54 pp. 4 figs.

Adalia fasciatopunctata ab. n. *per-
plexa* Turkestan p. 90; *bipunctata*
sesquipunctata Haw. (= *b. schuetti*
Park) p. 477, MADER Ent. Anz. 11.

Adonia variegata abb. n. *scharibergeri*
S. Tyrol, *grundmanni* China p. 89,
MADER t.c.

Aiolocaria mirabilis ab. n. *innocens*
Yunnan p. 201, MADER t.c.

Anatis ocellata abb. n. 4-*signata*, 6-*signata*, 8-*signata*, 10-*signata*, 14-*signata*, 16-*signata*, 18-*signata*, *laeta*, *transitoria* no locality; ab. *egrensis* Grädl (= *neglecta* Westhoff); ab. *prava* Heyd. (= *pereslavica* Hemmelin.) p. 134, MADER t.c.

Calvia 14-*guttata*, *Propylaea rosti* ab. of p. 111, MADER t.c.

Chilocorus mitsuhashii sp. n. Japan p. 442 [English description], [Author in Japanese] Insect Wld., Gifu 18 1914.

Coccinella revision of N. American spp. 32 pp., distribution p. 28, key p. 30, *prolongata* subsp. n. *sequoiae* California p. 10; *transversoguttata* Fald. (= *quinquenotata* Kby.) p. 14; *difficilis* Crotch (= *vandykei* Nunenm.) p. 20 figs., DOB[R]ZHANSKY Proc. U.S. Nat. Mus. 80 no. 2904.—*C. 11-punctata* subsp. n. *arabica* Arabia, Syria sep. p. 172, MADER Z. Ver. Naturbeobach. 6.—*C. divaricata* critical notes p. 478 figs., MADER Ent. Anz. 11.

Coccinula redimita principalis Ws. (= 14-*pustulata turkestanica* Fleischer) p. 109, MADER t.c.

Coelophora Muls. (= *Osumia* Kur.) p. 134, *ishidai* sp. n. Formosa, China p. 135, OHTA Ins. mats. 5.—*C. weisei* n. n. for *insularis* Weise nec Sic. p. 86, MIWA Rep. Dept. Agric., Govt. Res. Inst. Taihoku 55.

Epilachna chrysomelina variation in Palestine races p. 490 figs., TENENBAUM Naturwissenschaften 19; effect of selection and temperature on pigmentation p. 768 figs., ZIMMERMANN Naturwissenschaften 19.

Exochomus mülleri sp. n. Asia Minor p. 134, MADER Ent. Anz. 11.

Harmonia roubali Japan p. 109, *breiti* Kashmir p. 476, spp. n., MADER t.c.

Hippodamia 13-punctata abb. n. *marginepunctata*, *terna*, *postsignata*, 8-*signata* Palaearctic p. 88; 7-*maculata* ab. *oblonga* Hbst. (= *berulae* Ws.); ab. *herbsti* n. n. for *oblonga* Ws. nec Herbst p. 89, MADER t.c.—*H. tibialis* subsp. n. *timberlakei* Japan p. 17 figs., CAPRA Boll. Soc. ent. ital. 63.

Oculus gen. n. p. 233, *castaneus* sp. n. Sierra Leone p. 234, SICARD Ann. Mag. N.H. (10) 8.

Osumia see *Coelophora*.

Platynaspis plagiata sp. n. E. Africa p. 508 SICARD Ann. Mag. N.H. (10) 7.

Propylaea 14-punctata ab. *batmanovi* Kol. (= ab. *s-nigrum* Gemmel.) p. 117, KOLOSsov Ent. Bl. 27; ab. n. *luisae* Silesia p. 201, MADER Ent. Anz. 11.—*P. rosti* see *Calvia 14-guttata*.

Rodolia contraria N.W. Rhodesia p. 508 (10) 7, *obscuricollis* Cape Province p. 229 (10) 8, spp. n., SICARD Ann. Mag. N.H.

Scymnhova inornata sp. n. Pondoland p. 509, SICARD op. cit. (10) 7.

Scymnus luniferus Tanganyika p. 229, *ancoralis* Kenya p. 230, *c-luteum* Uganda p. 231, *ardosiaceus* Gold Coast, *erinaceus* Fiji p. 232, spp. n., SICARD op. cit. (10) 8.—*S. apetzii* new to Sweden p. 195, PALM Ent. Tidskr. 51 1930.

Solanophila clandestina biology p. 219, larva, nymph pp. 220–224 figs., PINTO da FONSECA & AUTUORI Rev. Ent. S. Paulo 1.—*S. gigantea* see *Oides decempunctata* (Galerucidae).

Synharmonia conglobata ab. *walteriana* n. n. for *walteri* Lem. 1930 nec 1927 sep. p. 204, MADER Z. Ver. Naturbeobach. 6.

Synonymcha japonica sp. n. Japan p. 443 [English description], [Author in Japanese] Insect Wld., Gifu 18 1914.

Vibidia tricincta sp. n. Uganda p. 228, SICARD Ann. Mag. N.H. (10) 8.

DERMESTIDAE.

Anthrenus museorum phototaxis in larva and imago pp. 77–84, JANDA Zool. Anz. 96.

Attagenus luteithorax, nigroapicalis p. 3, *atricolor* p. 4, spp. n. E. Africa, PIC Mél. exot.-ent. 57.—*A. astacurus* sp. n. Hoggar p. 64, DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.

Dermestes lardarius habits in beehives p. 63–68 figs., PRELL Arch. Bienenkunde 10 1929.—*D. peruvianus* Cast. (= *angustatus* Csy.) p. 174, SCHAEFFER Bull. Brooklyn Ent. Soc. 26.

Falsoorphinus subgen. n. see *Orphinus*.

Hirtomegatoma gen. n., *infasciata* sp. n. Palestine p. 5, PIC Echange 47.

Hospitopterus efflatouni ♀ p. 135, PIC Bull. Soc. ent. Egypte 1931.

Orphinus (Falsoorphinus subgen. n.), notatipennis sp. n. Jawata p. 4, PIC MÉL. exot.-ent. 57.

Thaumaglossa rufula sp. n. Philip-pines p. 4, PIC t.c.

BYRRHIDAE.

Eulimnichus evanescens brief description p. 249, KEIFER Mon. Bull. Calif. Agric. Expt. Sta. 20.

Nosodendron australicum, interruptum Queensland p. 375, *mediobasale* New Guinea, *fijiense* Fiji p. 376, spp. n., LEA Rec. S. Aust. Mus. 4.

Pedilophorus (Steffahnnyellus subgen. n.) p. 286, PORTEVIN Encyc. ent. A 13.

Pseudeucinetus zygops Hell. (= *fusi-formis* Champ.) p. 505, MAULIK J. F.M.S. Mus. 16.

Steffahnnyellus subgen. n. see *Pedilophorus*.

PARNIDAE (DRYOPIDAE).

Betelmis gen. n., japonicus sp. n. Japan p. 4 [English description], MATSUMURA Insect Wld., Gifu 20 1916.

Helichus columbianus sp. n. Br. Columbia p. 118, BROWN Canad. Ent. 63.

HETEROCERIDAE.

Heterocerus punctatissimus sp. n. Calcutta p. 437, MAMITZA Rec. Ind. Mus. 32 1930.—*H. bredoi* sp. n. Belgian Congo p. 165 fig., MAMITZA Rev. Zool. Bot. afr. 21.—*H. japonicus* sp. n. Japan p. 3, KÔNO Ins. mats. 6.

HYDROPHILIDAE.

Sphaeridiinae of the Pacific Coast, BLACKWELDER Pan-Pacific Ent. 8 pp. 19-32.

Coelostoma rohani sp. n. Rhodesia p. 634 fig., D'ORCHY MONT Bull. Mus. Paris (2) 2 (1930).

Enochrus collinus sp. n. Quebec p. 118, BROWN Canad. Ent. 63.

Hydraena williamsensis sp. n. New South Wales p. 175 fig., DEANE Proc. Roy. Soc. Vict. 43.—*H. italica* p. 72, *heterogyna* p. 73, *procera* p. 77, *discreta* p. 78 notes on and their Italian varr. figs., PRETNER Boll. Soc. ent. ital. 63.—*H. spp.* systematic notes pp. 81-106, *mülleri* Czechoslovakia p. 107, *integra* Caucasica p. 110 spp. n.; *polita* Kiesw. (= *cavernicola* Jeann.) p. 113 figs.,

PRETNER Coleopt. Centralbl. 5.—*H. pulsata, phassilyi* p. 28, *vedrasi* p. 29, *simonidea* p. 31, *macedonica* p. 32, *georgiadesi, ludovicae* p. 33, *graphica* p. 34 spp. n.; *excisa subsp. n. exclusa* p. 30 Balkans; *armipes* Rey distinct from *grandis* Reitt. p. 34; *rivularis* Guill. distinct sp. p. 63; *rigua* p. 64, *nupera* p. 66, *scabrosa* p. 68 Morocco spp. n.; *subdepressa* Rey (= *angustata* Muls., *darentasi* Des Goz.) p. 71; *sicula* Kies. discussed p. 72; *belgica* Orch. (= *sub-integra* Pret. nec Gangl.) p. 139; *saga* Orch. (= *septentrionalis* Pret.) p. 141 figs., D'ORCHY MONT Bull. Ann. Soc. ent. Belg. 71.

Hydrochara discussion of status and type 3 pp., MUTCHLER Amer. Mus. Nov. no. 507.

Hydrophilus discussion of status and type 3 pp., MUTCHLER t.c.—*H. obtusatus* external morphology pp. 191-233 figs., RICHMOND J. N.Y. Ent. Soc. 39.

Hydrous discussion of status and type 3 pp., MUTCHLER Amer. Mus. Nov. no. 507.

Ochthebius clarki, angustipennis p. 167, *tenebricosus, pallidipennis* p. 169, *fischeri* p. 170, *clypeatus, longipes* p. 171, *obcordatus* p. 172 Australia, *leai* Tasmania p. 171 spp. n.; *australis* p. 173, *novicius* p. 174 further descriptions figs., DEANE Proc. Roy. Soc. Vict. 43.—*O. insulans* sp. n. Br. Columbia p. 116, BROWN Canad. Ent. 63.

Philhydrus bicolor early stages p. 83, BENICK Mitt. geogr. Ges. Naturh. Mus. Lübeck (2) 31 1926.

Sphaeridium reticulatum sp. n. China, India p. 410; *seriatum, scarabaeoides* aedeagus fig. p. 412, D'ORCHY MONT Lingnan Sci. J. 7.

Tropisternus columbianus sp. n. Br. Columbia p. 117, BROWN Canad. Ent. 63.

CYPHONIDAE.

Costatocyphon latum sp. n. Madagascar p. 10, PIC MÉL. exot.-ent. 57.

Cyphon variabilis early stages p. 78, BENICK Mitt. geogr. Naturh. Mus. Lübeck (2) 31 1926.—*C. cooperi* sp. n. U.S.A. p. 174, SCHAEFFER Bull. Brooklyn Ent. Soc. 26.—*C. derelictum* sp. n. Hoggar p. 60, DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.—*C. fasciatus* Himalayas, *niger* Bolivia p. 4, *sculptipennis* Brazil p. 5, spp. n., PIC MÉL. exot.-ent. 58.

Macrocyphon grande Ubangi p. 8, *africanum* Kamerun, *auberti* Gabun p. 9, spp. n., PIC op. cit. 57.

Microcara testacea morphology, biology pp. 64-70 figs., BENICK Mitt. geogr. Ges. Lübeck (2) 29 1924.

Ora multinotata var. n. *reducta* Madagascar p. 445, PIC Bull. Mus. Paris (2) 3.

Prionocyphon serricornis morphology, biology pp. 49-62 figs., BENICK Mitt. geogr. Ges. Lübeck (2) 29 1924.—*P. major* Brazil, *pubescens* p. 3, *minutus* p. 4 Bolivia, spp. n., PIC Mél. exot.-ent. 58.

Scirtes ladelli sp. n. Siam p. 3, PIC t.c.—*S. perrieri* sp. n. Madagascar p. 445, PIC Bull. Mus. Paris (2) 3.

DASCILLIDAE.

Anchytarsus instriatus sp. n. Costa Rica p. 10, PIC Mél. exot.-ent. 57.

Epilichas rufonotatus sp. n. Borneo p. 8, PIC Mél. exot.-ent. 57.

Eubrianax atripennis sp. n. Kamerun p. 9, PIC t.c.

Paralichas niger sp. n. Madagascar p. 444, PIC Bull. Mus. Paris (2) 3.

Stenactyla jokoensis sp. n. Kamerun p. 10, PIC Mél. exot.-ent. 57.

Therius perrieri (with var. n. *bicolor* p. 445) sp. n. Madagascar p. 444, PIC Bull. Mus. Paris (2) 3.

RHIPICERIDAE (SANDALIDAE).

Key to genera of Sandalidae p. 49, and Rhipicerini p. 53, VAN EMDEN Ent. Bl. 37.

Brachyrrhipis gen. n. for *Callirrhapis venosa* Champ. p. 52, VAN EMDEN Ent. Bl. 27.

Callirrhapis key to Cent. American spp. p. 149 (*Parennometes*, *Helleriola* p. 51 subgen. n.) *nigrescens* p. 56, *gardneri* p. 58 India, *costaricensis* pp. 147, 150, *nevermanni* Costa Rica p. 147 spp. n. figs., VAN EMDEN t.c.—*C.* and subgen. *Parennometes* characters, *nigrescens* larva; *gardneri* larva p. 428, pupa p. 429 figs., GARDNER Trans. Ent. Soc. Lond. 79.—*C. venosa* see *Brachyrrhipis*.

Celadonia Cast. (= *Simianides* Emd.) p. 52, VAN EMDEN Ent. Bl. 27.

Chamzerhipis trapezicollis sp. n. Belgian Congo p. 185, VAN EMDEN Rev. Zool. Bot. afr. 20.

Helleriola subgen. n. see *Callirrhapis*.

Parennometes subgen. n. see *Callirrhapis*.

Polymerius notes p. 262, *chilensis* Cast. (= *marmoratus* Phil.) p. 264 fig., VAN EMDEN Rev. chil. Hist. nat. 34.

Ptiorthocera nevermanni sp. n. Costa Rica p. 147 fig., VAN EMDEN Ent. Bl. 27.

Sandalus retifer Ecuador p. 107, *collaris* p. 108, *costulatus* p. 109 Venezuela, *angularis* Argentina p. 110, *emarginatus* Paraguay p. 111, *edentatus* Costa Rica p. 145, spp. n., key p. 112, VAN EMDEN t.c.—*S. foveicollis* sp. n. Belgian Congo p. 183, VAN EMDEN Rev. Zool. Bot. afr. 20.

Simianides see *Celadonia*.

SPHINDIDAE.

Catalogue of Sphindidae, SCHENKLING Col. Cat. 117 4 pp.

Sphindus dubius f.n. *rufipennis* Czechoslovakia p. 184, ROUBAL Ent. Bl. 27.

CIIDAE.

Cis minutus n.n. for *pygmaeus* Broun nec Marsh. p. 17, BAYFORD Ent. Mon. Mag. 67.—*C. nudipennis* p. 513, *gravipennis*, *dracaenae* p. 514, spp. n. Hawaii, PERKINS Proc. Hawaii. Ent. Soc. 1929-30 7.

BOSTRYCHIDAE.

Contribution to the knowledge of Egyptian Bostrychids, ANDRES Z. angew. Ent. 18 pp. 691-697, 1 pl. 4 figs.

Apate monachus symbiotic habits p. 812, LESNE C.R. Acad. Sci. Fr. 192.

Bostrychoplites suturalis sp. n. S. and E. Africa p. 24 fig., LESNE Bull. Soc. ent. Fr. 1931.

Micrapate bruchi p. 99, *cordobiana*, *catamarcana* p. 101, spp. n. Argentina, LESNE Bull. Mus. Paris (2) 3.

Sinoxylon beelsoni sp. n. India p. 102 fig., LESNE t.c.

Tetrapriocera caprina sp. n. Argentina p. 104 fig., LESNE t.c.

LYCTIDAE.

Lyctoderma testacea adaptation to commensalism p. 812, LESNE C.R. Acad. Sci. Fr. 192.

Lyctus caribeanus sp. n. Cent. America, Antilles p. 96 fig., LESNE Bull. Mus. Paris (2) 3.

Minthea reticulata sp. n. Cochinchina, Philippines, Netherlands Indies, New Guinea p. 98 fig., LESNE t.c.

ANOBIIDAE (ASPIDIPHORIDAE).

Catalogue of Aspidiphoridae, SCHENKLING Col. Cat. 117 2 pp.

Episernus hispanicus diversus and *gentilis semirufus* erroneously described as *Gastrallus* p. 1, PIC Echange 47.

Falsogastrallus tonkineus Tonkin, *elongatus* Yunnan, spp. n. p. 1, PIC Mél. exot.-ent. 58.

Gastrallus see *Episernus*.

Lasioderma serricorne life-history pp. 333-393 figs., POWELL Ecological Monogs. 1.—*L. purpurea* sp. n. Madagascar p. 6, PIC Mél. exot.-ent. 57.

Mimotrypophthis gen. n., *inaequalis* sp. n. Madagascar p. 6, PIC t.c.

Oligomerinus subgen. n. see *Oligomerus*.

Oligomerus (subgen. n. *Oligomerinus*) p. 484, PORTEVIN Encyc. ent. A 13.—*O. atriceps* sp. n. Annam p. 138, PIC Bull. Soc. linn. Lyon 10.

Ozognathus seileri sp. n. Bogota p. 193, PIC Bull. Soc. ent. Fr. 1931.

Ptilinus coomani sp. n. Tonkin p. 2, PIC Mél. exot.-ent. 58.

Theca robusticollis sp. n. Madagascar p. 6, PIC op. cit. 57.

Trichodesma minima sp. n. Tonkin p. 2, PIC op. cit. 58.

PTINIDAE.

Cavoptinus gen. n., *albonotatus* sp. n. Mindanao p. 5, PIC Mél. exot.-ent. 57.

Ptinus bicinctus, *villiger* new to Sweden p. 196, PALM Ent. Tidskr. 51 1930.—*P. corumbanus*, *rufipennis* spp. n. Brazil p. 5, PIC Mél. exot.-ent. 57.

Trigonogenius particularis sp. n. Uganda p. 2, PIC op. cit. 58.

LYMEXYLONIDAE.

Atractocerus emarginatus, larva, pupa pp. 389-394 figs., FULMEK Treubia 12 1930.—*A. crassicornis* sp. n. N.W. Australia p. 120 fig., CLARK Proc. Roy.

Soc. Vict. 43.—*A. brasiliensis* in Argentina p. 275 fig., DALLAS Rev. Soc. ent. argent. 3.

CLERIDAE.

Check list of Cleridae of Sumatra and geographical distribution outside this island, CORPORAAL Misc. zool. sumat. 51 6 pp.

Contribution to the knowledge of the Cleridae of Bulgaria, KANTARDJIEVA-MINKOVA Mitt. bulgar. ent. Ges. Sofia 6 pp. 153-156.

Apopempsis tricolor sp. n. Belgian Congo p. 329, WOLCOTT Rev. Zool. Bot. afr. 20.

Callimerus annulatus sp. n. S. India p. 8, PIC Mél. exot.-ent. 57.

Neoclerus rufonotatus sp. n. Banguey I. p. 7, PIC Mél. exot.-ent. 57.

Pseudoclerops sinensis sp. n. China p. 7, PIC t.c.

Thanasimus mimomutillus var. n. *bicoloricollis* Tonkin; *weisei* var. n. *laterufus* Congo p. 7, PIC t.c.

Trichodes apiarius f. n. *tricolor* Russia, Czechoslovakia p. 183, ROUBAL Ent. Bl. 27.

MELYRIDAE.

Anthocomus metallicus sp. n. Madagascar p. 100, PIC Echange 47 hors-texte.

Apalochrus monardi sp. n. Angola p. 421, PIC Rev. suisse Zool. 38.—*A. flabellicornis* var. n. *sudanicus* Sudan; *longior* var. n. *luteovestitus* Uganda p. 101, PIC Echange 47.

Attalus serrei sp. n. Costa Rica p. 448, PIC Bull. Mus. Paris (2) 3.—*A. mackiei* sp. n. Morocco p. 60, PIC Bull. Soc. ent. Fr. 1931.

Callotroglops anastasei sp. n. Egypt p. 135, PIC Bull. Soc. ent. Egypte 1931.

Dasycoxygrops ~~from p. 110.~~
Eschatocrepis characters p. 327, *desertus* sp. n. California p. 329, key p. 331 figs., BLAISDELL Trans. Amer. Ent. Soc. 57.

Falsoanthocomus diversicornis sp. n. Madagascar p. 100, PIC Echange 47 hors-texte.

Hedybius schimperi sp. n. Abyssinia p. 446, PIC Bull. Mus. Paris (2) 3.

Hypebaeus subelongatus sp. n. Tonkin p. 100, PIC Echange 47 hors-texte.

Idgia coomani sp. n. Tonkin p. 100, PIC t.c.

Laius pici n. n. for *sexmaculatus* Pic 1926 nec 1919 p. 108, MIWA Rep. Dept. Agric., Govt. Res. Inst. Taihoku 55.

Listrus inyoensis sp. n. California p. 178, BLAISDELL Canad. Ent. 63.

Malachiomimus bicoloripes sp. n. Tonkin p. 100, PIC Echange 47 hors-texte.

Malachius californicus sp. n. California p. 102, BARRETT Pan-Pacific Ent. 7.—*M. elegans* p. 175, *lusitanicus* var. *australis* new to Britain p. 194 fig., DONISTHORPE Ent. Mon. Mag., 67; Proc. Ent. Soc. Lond. 6 p. 61.

Mastilius immaculatus var. n. *sicardi*; 4-maculatus sp. n. Madagascar p. 441, PIC Bull. Mus. Paris (2) 3.

Menovectura gen. n. p. 181, *serrulata* sp. n. California p. 182, BLAISDELL Canad. Ent. 63.

Microjulistus duboisi, *meynieri* spp. n. Hoggar p. 51, DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.—*M. olivaceus* sp. n. Abyssinia p. 446, PIC Bull. Mus. Paris (2) 3.

Pseudocolotes convexus sp. n. Madagascar p. 446, PIC t.c.—*P. flavomarginatus* Abyssinia p. 96, *sicardi* Madagascar p. 99, spp. n., PIC Echange 47 hors-texte.

Trichochrous blackwelderi sp. n. California p. 325, BLAISDELL Trans. Amer. Ent. Soc. 57.—*T. varipes* sp. n. California p. 180, BLAISDELL Canad. Ent. 63.

Troglops nitidior sp. n. Uganda p. 101, PIC Echange 47.

Xamerpus fasciatus, *brevis*, *ambrensis* spp. n. Madagascar p. 101, PIC t.c.—*X. vicinus*, *minutus* spp. n. Madagascar p. 96, PIC Echange 47 hors-texte.—*X. oxylepisiformis* p. 107, *subfasciatus* p. 108, *laterufus*, *nigriceps*, *disconotatus* p. 442, *ruficollis* p. 443, *sicardi* p. 447, spp. n. Madagascar, PIC Bull. Mus. Paris (2) 3.

DASYTIDAE.

Allotarsus atrimembris sp. n. Portugal p. 5, PIC Echange 46.

Dasytes reticulatus Schils. (= *diabolicus* Chob.) p. 185; *algricus* Muls. (= *confinis* Schils.) p. 186, DE PEYERIMHOFF Abeille 31 1923.—*D. aerosus*

new to Sweden p. 195, PALM Ent. Tidskr. 51 1930.—*D. seileri* sp. n. Bogota p. 192, PIC Bull. Soc. ent. Fr. 1931.—*D. brevesulcatus*, *atricornis* spp. n. Taurus Mts. p. 13, PIC Echange 47.

Donaldia variabilis sp. n. Madagascar p. 101, PIC t.c.

Haplocnemus alternatus sp. n. Morocco p. 1, DE PEYERIMHOFF Ann. Soc. ent. Fr. 100.—*H. mancinii* var. n. *capraianus* Italy p. 159, PIC Boll. Soc. ent. ital. 63.

Henicopus (*Parahenicopus* subgen. n.) p. 453, PORTEVIN Encyc. ent. A 13.

Parahenicopus subgen. n. see *Henicopus*.

TELEPHORIDAE (CANTHARIDAE).

Discodon insuturale Bolivia, *flavomarginatum* Brazil, spp. n. p. 102, PIC Echange 47.

Lobetus ruficeps sp. n. Bolivia p. 377 PIC Ent. Anz. 11.

Malthinus curtenotatus sp. n. Palestine p. 5, PIC Echange 47.

Malthodes kiritshenkoi sp. n. Ussuri p. 101 fig., BAROVSKIĖ C.R. Acad. Sci. U.R.S.S. (A) 1931.—*M. nodosicornis*, *binhanus* spp. n. Tonkin p. 98, PIC Echange 47 hors-texte.

Mimomalthinus gen. n., *niger* sp. n. Tonkin p. 98, PIC t.c.

Podabrinus gracilior sp. n. Tonkin p. 98, PIC t.c.

Podistra European and Caucasian spp. pp. 244–254, *pentheri* Balkans p. 248, *caucasica* p. 249, *starcki* p. 250 Caucasus spp. n. figs., GANGLBAUER Koleopt. Rdsch. 16.

Polemnius triangulifer Bolivia, *fouchieri* Mexico, spp. n. p. 86, PIC Ann. Soc. ent. Fr. 100.—*P. triangulifer* Bolivia, *fouchieri* Mexico p. 96, *siamensis* Siam p. 98, spp. n., PIC Echange 47 hors-texte.

Rhagonycha sulcaticeps sp. n. Tonkin p. 98, PIC t.c.

Silidius paulonotatus p. 96, *sicardi*, *semiviolaceus*, *lobatus* p. 99, spp. n. Madagascar, PIC t.c.—*S. unicolor* sp. n. Madagascar p. 107, PIC Bull. Mus. Paris (2) 3.—*S. hargreavesi* sp. n. Uganda p. 102, PIC Echange 47.

Silis hargreavesi sp. n. Uganda p. 102, Prc t.c.—*S. serrei* sp. n. Costa Rica p. 448, Prc Bull. Mus. Paris (2) 3.

Stenothemus particularis sp. n. Yunnan p. 77, Prc Ent. Anz. 11.

Themus granulipennis sp. n. China p. 77, Prc t.c.

LYCIDAE.

Catalogue of Indian Lycidae, KLEINE Govt. India Centr. Pubn. Branch 1931 iii + 52 pp.

Contribution to the knowledge of the Lycidae of Java, KLEINE Treubia 13 pp. 245–290, 26 figs.

Lycidae of China, KLEINE Lingnan Sci. J. 7 pp. 493–496.

Bulenides pudicus sp. n. Java p. 257 fig., KLEINE Treubia 13.

Calleros lojaensis Ecuador, *discolineatus* Brazil, spp. n. p. 87, Prc Bull. Soc. linn. Lyon 10.—*C. hickeri* sp. n. Colombia p. 377, Prc Ent. Anz. 11.—*C. grandjeani*, *blumeneausus* Brazil, *terminalicornis* Peru, *lajoyei* Venezuela, *lemoulti* Fr. Guiana, spp. n. p. 93, Prc Echänge 47 hors-texte.

Calochromus pyrochroides sp. n. Java p. 286 figs., KLEINE Treubia 13.

Calopteron bangi, *semiobustum* spp. n. Bolivia; *parens* varr. n. minor Peru, *bodemeyeri* Panama p. 105, Prc Echänge 47 hors-texte.

Cautires guttatus, *drescheri* p. 261, *modulatus*, *roepkei* p. 262, *salatiganus* p. 263, spp. n. Java, key p. 264 figs., KLEINE Treubia 13.—*C. atrimembris* sp. n. Belgian Congo p. 261; *certus* further description p. 262, Prc Bull. Soc. ent. Fr. 1931.—*C. robustus* p. 106, *jokoensis*, *diversipes* Kamerun, *mocquersyi* Gabun, *obscurithorax*, *chariensis* Congo p. 107, spp. n., Prc Echänge 47 hors-texte.

Cladophorus cordicollis sp. n. Uganda p. 378, Prc Ent. Anz. 11.—*C. nigroapicalis* Java p. 260, *karnyi* Sumatra p. 291, spp. n. figs., KLEINE Treubia 13.

Cyrtopteron aurantiacum, *bicoloricorne*, *subprolongatum* p. 94, *kraatzii* p. 95, spp. n. Bolivia, Prc Echänge 47 hors-texte.

Dihammatus pilosus sp. n. Java p. 271 fig., KLEINE Treubia 13.

Dilophotes monticola sp. n. Java p. 284 fig., KLEINE t.c.

Ditoneces versicolor p. 272, *turbidus*, *preangeranus* p. 273, *promiscuus*, *assimilis* p. 274, *nigrosuturalis* p. 275, *acuticollis*, *erythropterus* p. 276, *mundus* p. 288, spp. n. Java, key p. 277 figs., KLEINE t.c.—*D. subvittatus*, *ionkinensis* spp. n. Tonkin p. 97, Prc Echänge 47 hors-texte.

Emplectus alternatus sp. n. Colombia p. 193, Prc Bull. Soc. ent. Fr. 1931.—*E. cariocosus* sp. n. Bolivia p. 104, Prc Echänge 47.

Eudictyoptera brevicornis further description p. 161, BAROVSKII C.R. Acad. Sci. U.R.S.S. (A) 1931.

Falsocaenia irregularis Peru, *diversicostata* Bolivia, spp. n. p. 94, Prc Echänge 47 hors-texte.

Falsoconderis apicicornis, *brevior* spp. n. Tonkin p. 97, Prc t.c.

Flabellocaenia bourgeoisi var. n. *latebasilis* Bolivia p. 104, Prc Echänge 47.

Flabellodilophotes nigrosuturalis p. 283, *dispar* p. 284, spp. n. Java figs., KLEINE Treubia 13.

Haplobothris apicicornis, *ocularis* spp. n. Brazil p. 105, Prc Echänge 47 hors-texte.

Idiopteron apicipenne sp. n. Colombia p. 377, Prc Ent. Anz. 11.

Leptotrichalus pullus variation pp. 19–20; *tosarianus* sp. n. Java p. 269 figs., KLEINE Treubia 13.

Libnetis tumidus sp. n. Java p. 282 fig., KLEINE t.c.

Lycomorphon elongaticolle var. n. *diversicolle* Bolivia p. 104, Prc Echänge 47.

Lycoplaters diversipes sp. n. Bolivia p. 104, Prc t.c.

Lycostomus kerni p. 247, *slamatensis*, *drescheri* p. 248 Java, *baliensis* Bali I. p. 281, spp. n., key p. 249 figs., KLEINE Treubia 13.

Lycus basicornis W. Africa p. 93, *alberti* Congo p. 108, spp. n., Prc Echänge 47 hors-texte.

Lyropaeus key to known spp. p. 383, list p. 385, *humeralis* sp. n. Borneo p. 387 figs., KLEINE Treubia 12 1930.

Macrolycus aemulus sp. n. Ussuri p. 580 figs., BAROVSKII C.R. Acad. Sci. U.R.S.S. (A) 1930.

Macrolygistopterus kirschi sp. n. Argentina p. 4, PIC Echange 47.

Mesopteron subopacum, subnitidum, pauli Brazil p. 103, *schneideri* Mexico p. 104, spp. n., PIC t.c.—*M. longissimum* Bolivia, *subscutellare* Argentina, spp. n. p. 95, PIC Echange 47 hors-texte.

Odontocerus prominulithorax sp. n. Tonkin p. 97, PIC t.c.

Planeteros collarti, bilineatus spp. n. p. 106; *soppoensis* var. n. *breveapicalis* p. 105 Congo, PIC t.c.

Platerodrilus curtus sp. n. Mindanao p. 97, PIC t.c.

Plateros ater sp. n. Tonkin p. 97, PIC t.c.—*P. ussuriensis* sp. n. Ussuri p. 160, BAROVSKIĖ C.R. Acad. Sci. U.R.S.S. (A) 1931.—*P. testaceohumeralis* sp. n. Java p. 278 fig., KLEINE Treubia 13.

Procautires slamatensis sp. n. Java p. 265 fig., KLEINE t.c.

Protaphes drescheri p. 250, *incarnatus* p. 251, spp. n. Java figs., KLEINE t.c.

Pyropterus schelkovnikovi sp. n. Transcaucasus p. 615 figs., BAROVSKIĖ C.R. Acad. Sci. U.R.S.S. (A) 1930.

Trichalus lineatus sp. n. Malaya p. 26, PIC Bull. Soc. linn. Lyon 10.—*T. castigatus* sp. n. Java p. 287 fig., KLEINE Treubia 13.

Xylobanellus reticulatus sp. n. Java p. 266 fig., KLEINE t.c.

Xylobanus marginecinctus p. 252, *goentoerensis* p. 254, *saranganus* p. 255, *torridus* p. 287, spp. n. Java figs., KLEINE t.c.—*X. uniareolatus, longipennis* spp. n. Congo p. 106, PIC Echange 47 hors-texte.

LAMPYRIDAE (PHENGODIDAE).

Luminosity in Lampyrids, BUGNION Riviera sci. Mem. 1929 Suppl. 18 pp. 97–131, 9 figs.

Mechanism controlling flashing in Lampyrids, SNELL Science 73 pp. 372–373, 1 fig.

Cladodes lateralis, niger spp. n. Brazil p. 103, PIC Echange 47.

Diaphanes fossicollis varr. n. *binoticollis, crampeli* Congo; *unimaculatus, lateralis* spp. n. Kamerun p. 103, PIC t.c.—*D. latipennis* (with var. n. *leopoldi*), *nitidus* p. 38, *reductus* p. 39, spp. n. Belgian Congo, PIC Rev. Zool. Bot. afr. 21.

Hyas subcrucifer sp. n. Brazil p. 78, PIC Ent. Anz. 11.

Lampyrus tinantae p. 39, *acuminata* p. 40, spp. n. Belgian Congo, PIC Rev. Zool. Bot. afr. 21.—*L. bicoloripes* sp. n. Ivory Coast p. 103, PIC Echange 47.

Leucothrix bogotensis sp. n. Colombia p. 379, PIC Ent. Anz. 11.

Lucidota fulgurans var. n. *subinterrupta* Costa Rica p. 449, PIC Bull. Mus. Paris (2) 3.

Luciola tetrasticta var. n. *pallidicollis; overlaeti* p. 40, *subunicolor, collarti* p. 41, *discoidalis, burgeoni, christyi* p. 42 spp. n. Belgian Congo, PIC Rev. Zool. Bot. afr. 21.—*L. lusitanica* biology, morphology, luminosity pp. 97–115 figs., BUGNION Riviera sci. Mem. 1929 Suppl. 18.—*L. costata, grandjeani, pouilloni* spp. n. W. Africa p. 11, PIC Mél. exot.-ent. 57.—*L. unmunzana* sp. n. Korea p. 54 [in Japanese], DOI J. Chosen Nat. Hist. Soc. 12.

Photinus pyralis photoperiodism pp. 49–58 figs., ALLARD Proc. Ent. Soc. Wash. 33.—*P. multilineatus, discoidalis* Brazil, *subauranticus* Colombia, *atri-tarsis* Bolivia, *apicalis* no locality, spp. n. p. 108, PIC Echange 47 hors-texte.

PhoturoLuciola gen. n., *deplanata* sp. n. Madagascar p. 12, PIC Mél. exot.-ent. 57.

Pyrogaster brevenotatus sp. n. Colombia p. 193, PIC Bull. Soc. ent. Fr. 1931.—*P. flavohumeralis* sp. n. p. 378; *pictus* var. n. *reductus* p. 379 Brazil, PIC Ent. Anz. 11.

DRILIDAE (KARUMIDAE).

Drilus humeralis sp. n. Cyprus p. 9, PIC Echange 47.

Ototetradrilus testaceicornis sp. n. E. Indies p. 97, PIC Echange 47 hors-texte.

Pseudokarumia gen. n. p. 95, *angustata* sp. n. Costa Rica p. 96, PIC t.c.

Selasia maynei, posticalis spp. n. Belgian Congo p. 37, PIC Rev. Zool. Bot. afr. 21.

EUCNEMIDAE (MELASIDAE, CEROPHYTIDAE).

Arhipis cavifrons Java, Sumatra p. 102, *hylocharoides* Sumatra p. 103, spp. n., FLEUTIAUX Bull. Soc. ent. Fr. 1931.

Arisus carinulatus Bonv. (= *Mesogenus tricarinatus* Schwarz) p. 104, FLEUTIAUX t.c.

Dromaeolus pambertoni New Guinea, *nigripes* Australia, spp. n. p. 455, FLEUTIAUX Proc. Hawaii. Ent. Soc. 1929-30 7.

Farsus brevis sp. n. Indo-China p. 73; *planifrons* Schwarz from *Hylochares* p. 104, FLEUTIAUX Bull. Soc. ent. Fr. 1931.

Fornax zwaluwenburgi New Guinea p. 455, *insularis* Fiji p. 456, spp. n., FLEUTIAUX Proc. Hawaii. Ent. Soc. 1929-30 7.

Galbimorpha muiri sp. n. Borneo p. 453, FLEUTIAUX t.c.

Hylochares planifrons see *Farsus*.

Lissothyreus nigrolimbatus Schwarz from *Thylacosternus* (= *Pterotarsus jansoni* Fleut.) p. 104, FLEUTIAUX Bull. Soc. ent. Fr. 1931.

Maelodrus bryani p. 453, *rufiventris*, *dorsalis* p. 454, spp. n. Fiji, FLEUTIAUX Proc. Hawaii. Ent. Soc. 1929-30 7.

Melanoscython monilicornis sp. n. Indo-China p. 74, FLEUTIAUX Bull. Soc. ent. Fr. 1931.

Melanus nigellus White (= *sculptus* Broun) p. 104, FLEUTIAUX t.c.

Mesogenus tricarinatus see *Arisus carinulatus*.

Pterotarsus jansoni see *Lissothyreus nigrolimbatus*.

Thylacosternus nigrolimbatus see *Lissothyreus*.

ELATERIDAE (PHYLLOCERIDAE, DICRONYCHIDAE).

Keys to French Elateridae, DU BUYSSON Misc. ent. 31 1928 sep. pp. 225-240.

Elateridae of Dr. E. Mjöberg's Swedish scientific expeditions to Australia 1910-1913, ELSTON Ark. Zool. 22A no. 1 22 pp.

Omissions in the Coleopt. Catal. no. 80 1925, FLEUTIAUX Bull. Soc. ent. Fr. 1931 p. 120.

Catalogue of Elateridae of Fr. Indo-China, FLEUTIAUX Bull. Mus. Paris (2) 2 (1930) pp. 636-644.

Catalogue of Elateridae of Fr. Indo-China, FLEUTIAUX Bull. Soc. zool. Fr. 56 pp. 306-334, 5 figs.

Elateridae from Sweden, GAUNITZ Ent. Tidskr. 51 1930 pp. 75-80.

Catalogue of Cavicoxumidae, HETSCHKO Col. Cat. 108 1930 p. 1.

Comparative anatomy of genitalia of Elateridae, LEVTSCHUK Rev. russe Ent. 24 1930 pp. 135-155, 7 pls.

Elateridae of Formosa (V), list with geographical distribution p. 85, MIWA Trans. N.H. Soc. Formosa 21 pp. 72-98.

Supplementary notes on the Elaterid fauna of Loo-Choo, MIWA Trans. N.H. Soc. Formosa 21 pp. 259-261.

Predatory enemies of Elateridae, THOMAS Ent. News 42 pp. 137-140, 158-167.

Elateridae from New Guinea and New Britain, VAN ZWALUWENBURG Proc. Hawaii. Ent. Soc. 1929-30 7 pp. 427-435, 1 pl.

Adelocera hova n. n. for *scutellatus* Fairm. nec Cand. p. 120, FLEUTIAUX Bull. Soc. ent. Fr. 1931.

Agonischius mjobergi p. 20, *laticornis* p. 21, spp. n. Australia, ELSTON Ark. Zool. 22A no. 1.—*A. gracilis* sp. n. Formosa p. 205, MIWA Wien. ent. Ztg. 47.

Agraeus Cand. (= *Cavicornum* Pic) p. 74, FLEUTIAUX Bull. Soc. ent. Fr. 1931.

Agriotes sonanis varr. n. *brunneipennis*, *nigrinus* Formosa p. 78, MIWA Trans. N.H. Soc. Formosa 21.—*A. pallidiangulus* see *Agriotides tonkinensis*.

Agriotides tonkinensis Fleut. (= *Agriotes pallidiangulus* Miwa) p. 144, MIWA Rep. Dept. Agric., Govt. Res. Inst. Taihoku 55.

Anchastus vitiensis Fiji, *swezeyi* Hawaii, spp. n. p. 489 figs., VAN ZWALUWENBURG Proc. Hawaii. Ent. Soc. 1929-30 7.

Anischia key p. 80, *langurioides* Tonkin, *vicina* Borneo p. 81, spp. n., FLEUTIAUX Bull. Ann. Soc. ent. Belg. 71.

Archaphes fulvus, *humeralis* p. 638, *coomani* p. 639, spp. n. Tonkin, FLEUTIAUX Bull. Mus. Paris (2) 2.

Asaphes memnonius alimentary canal pp. 386–395 figs., BIGHAM Ohio J. Sci. 31.

Ascesis testaceus sp. n. Australia p. 21, ELSTON Ark. Zool. 22A no. 1.

Athous (*Neonomopleus* subgen. n. n. for *Nomopleus* Reitt. nec Cand.) p. 331, SCHENKLING Col. Cat. 88 1927.—*A. vittatus* f. n. *clarissima* Czechoslovakia p. 82, ROUBAL Ent. NachrBl. 5.—*A. sulcicollis* see *Parathous sanguineus*.

Blaiseus gen. n. p. 306, *bedeli* sp. n. Tonkin p. 308, FLEUTIAUX Bull. Soc. zool. Fr. 56.

Campsosternus papuensis sp. n. New Guinea p. 430 fig., VAN ZWALUWENBURG Proc. Hawaii. Ent. Soc. 1929–30 7.

Cardiophypnus coomani Fleut. (= *sonani* Miwa) p. 137, MIWA Rep. Dept. Agric., Govt. Res. Inst. Taihoku 55.

Cardiophorus carduelis Cand. (= *rufithorax* Miwa) p. 137, MIWA t.c.—*C. nacleayi* further description p. 15, ELSTON Ark. Zool. 22A no. 1.—*C. status* of subgen. *Platynychus*; *Eudicronychus* subgen. n. n. for *Dicronychus* Esch. nec Brul. p. 207, MEQUIGNON Bull. Soc. ent. Fr. 1931.—*C. crux* var. n. *alfieri* Egypt p. 136, PIC Bull. Soc. ent. Egypte 1931.—*C. albipubens* sp. n. New Guinea p. 435, VAN ZWALUWENBURG Proc. Hawaii. Ent. Soc. 1929–30 7.—*C. oblongicollis* p. 313, *nitidicollis* Tonkin, *perraudierei* Annam p. 314, spp. n. fig., FLEUTIAUX Bull. Soc. zool. Fr. 56.—*C. florentini*, *melanopterus* see *Phorocardius*.

Cardiotarsus key p. 328, *rotundicollis* p. 329, *coomani*, *tonkinensis* p. 330, *longicornis*, *cribricollis*, *levigatus* p. 331, *dimidiatipennis* p. 332, spp. n. Tonkin fig., FLEUTIAUX Bull. Soc. zool. Fr. 56.—*C. vitalisi* see *Odontocardus*.

Cavicozum see *Agraeus*.

Conoderus rufifrons p. 10, *castaneipennis* p. 11 further descriptions; *mentitus*, *mjöbergi* spp. n. Australia p. 13, ELSTON Ark. Zool. 22A no. 1.

Corymbites boeberi Germ. (= *Diacanthus decoratus* Sch.) p. 136, STEPANOV Acta Soc. ent. Čech. 27 1930.—*C. gratus* var. n. *fuscipes* Formosa p. 72, MIWA Trans. N.H. Soc. Formosa 21.—*C. wahlbergi*, *niger* see *Pseudonomopleus*.

Ctenicera marginata sp. n. Italy p. 159, PIC Boll. Soc. ent. ital. 63.

Denticollis puerilis, *mounaldarii* spp. n. Formosa p. 83, MIWA Trans. N.H. Soc. Formosa 21.

Diacanthus decoratus see *Corymbites boeberi*.

Dicronychus see *Cardiophorus* (*Eudicronychus*).

Drasterius productus sp. n. Hoggar p. 66, DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.

Elater quadrisignatus f. n. *jesatkoi* Carpathians p. 83, ROUBAL Ent. NachrBl. 5.—*E. sanguineus* thermotropism p. 78, DE SAINT-PÉRIER Bull. Soc. Sci. Seine-et-Oise (2) 12.—*E. sanguineus* and allied spp. notes pp. 106–107, JONES Ent. Mon. Mag. 67.—*E. granulipennis* see *Xanthelater*.

Eudicronychus subgen. n. n. see *Cardiophorus*.

Glypheus sanguineus sp. n. Australia p. 8, ELSTON Ark. Zool. 22A no. 1.

Glyphonyx arisanus, *brunneipennis*, *kankai* p. 206, *sauteri*, *castaneus* p. 207 spp. n. Formosa, key to Formosan spp. p. 208, MIWA Wien. ent. Ztg. 47.—*G. illepidus* further description p. 261, MIWA Trans. N.H. Soc. Formosa 21.

Hapatesus pretiosus distinguishing characters; *jugulatus* further description p. 18; *hirtus* var. n. *minor* Australia p. 19, ELSTON Ark. Zool. 22A no. 1.

Horizoteichos gen. n., *papuensis* sp. n. New Guinea p. 433 fig., VAN ZWALUWENBURG Proc. Hawaii. Ent. Soc. 1929–30 7.

Lacon recticollis p. 4, *mjöbergi* p. 5, *reticulatus* p. 6, spp. n. Australia, ELSTON Ark. Zool. 22A no. 1.

Ludius bipustulatus var. n. *diapurus* France p. 235, DU BUYSSON Misc. ent. 33.

Melanoxanthus exiguus p. 433, *glyphonides* p. 434, spp. n. New Guinea figs., VAN ZWALUWENBURG Proc. Hawaii. Ent. Soc. 1929–30 7.

Meristhus scabrosus sp. n. Annam p. 74, FLEUTIAUX Bull. Soc. ent. Fr. 1931.

Neonomopleus subgen. n. n. see *Athous*.

Neotrichophorus carinicephalus sp. n. Formosa p. 205, MIWA Wien. ent. Ztg. 47.

Nomopleus see *Athous* (*Neonomopleus*).

Odontocardus gen. n. for *Cardiotarsus vitalisi* Fleut. (type) p. 332, *harmandi* sp. n. Cochin China p. 333 fig., FLEUTIAUX Bull. Soc. zool. Fr. 56.

Paracardiophorus mjöbergi, *jugulus* p. 16, *attenuatipennis* p. 17, spp. n. Australia, ELSTON Ark. Zool. 22A no. 1.

Parathous sanguineus Fleut. (= *Athous sulcicollis* Miwa) p. 140, Miwa Rep. Dept. Agric., Govt. Res. Inst. Taihoku 55.

Phorocardius gen. n. for *Cardiophorus florentini* Fleut. (type), *melanopterus* Cand. etc.; *solitarius* Tonkin p. 309, *magnus* Cochin China p. 310 spp. n.; *melanopterus* varr. n. *niger* p. 311, *candezei*, *fulvus* Laos, *bavayi* Tonkin p. 312 fig., FLEUTIAUX Bull. Soc. zool. Fr. 56.

Platynychus key p. 315, *conductus* varr. n. *camodiensis*, *diffusus* Cochin China p. 323; *septentrionalis*, *duporti* p. 318, *vaulogeri* p. 322, *extractus* p. 325 Tonkin, *falsus* p. 319, *subparallelus* p. 322 Cochin China, *annamensis* p. 319, *testaceipes* p. 324, *asiaticus* p. 325 Annam, *dentatus* p. 320, *separatus*, *mouhoti* p. 321 Laos, *mixtus* Annam p. 326, *fouqueti* Cochin China, *incosatus* Cambodia p. 327, spp. n. fig., FLEUTIAUX t.c.

Porthmidius austriacus f. n. *bioculata* Czechoslovakia p. 82, ROUBAL Ent. NachrBl. 5.

Pseudonomopleus gen. n. for *Corymbites wahlbergi* Cand., *niger* Cand. (type) p. 29, FLEUTIAUX Bull. Soc. ent. Fr. 1931.

Pyrophorus luminosity pp. 269-272 figs., HARVEY & STEVENS J. Gen. Physiol. 12 1928.

Quasimus subovalis, *minutus* p. 643, *unicus* p. 644, spp. n. Tonkin, FLEUTIAUX Bull. Mus. Paris (2) 2 (1930).

Selatossomus key to spp. of subgen. *Calambus* p. 134, *jurečki* sp. n. Vladivostok p. 135, STEPANOV Acta Soc. ent. Čech. 27 1930.—*S. spretus*, *latus* larval morphology pp. 293-298 figs., MASAITIS Plant Prot. 8.

Simodactylus pembertoni sp. n. New Britain p. 431, VAN ZWALUWENBURG Proc. Hawaii. Ent. Soc. 1929-30 7.

Xantheater gen. n. for *Elater granulipennis* Miwa p. 259, MIWA Trans. N. H. Soc. Formosa 21.

Zorochrus bobilloti sp. n. Tonkin p. 641, FLEUTIAUX Bull. Mus. Paris (2) 2 (1930).

BUPRESTIDAE.

Some notes on Buprestids of the Belgian Congo, BURGEON Rev. Zool. Bot. afr. 20 pp. (86)-(90), 2 figs.

External morphology of Buprestids, v. GEBHARDT Koleopt. Rdsch. 17 pp. 161-172, 56 figs.

Reply to H. J. Carter's criticism, OBENBERGER Ent. Bl. 27 pp. 77-83.

Notes on the distribution of Buprestids, THÉRY C.R. Soc. Biogéogr. 8 no. 68 pp. 60-62.

Acmaeodera arnoldi sp. n. S. Rhodesia p. 34, THÉRY Bull. Soc. Sci. nat. Maroc 11.—*A. adspersula* subsp. n. *squamipennis* Hoggar p. 70, DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.—*A. kamanyabensis* sp. n. S. Africa p. 177, OBENBERGER Folia zool. hydrobiol. 2.

Actenodes heros var. n. *picta* Fr. Guiana p. 147, HOSCHECK Mitt. zool. Mus. Berl. 17.—*A. chalybeitarsis* var. n. *peruviana* Peru p. 298, THÉRY Bull. Ann. Soc. ent. Belg. 70.

Agrilomorpha albiventris, *schoutedeni* (also Transvaal) S.W. Africa, *strandi* E. Africa p. 7, *spatulata* Centr. E. Africa p. 8, spp. n., OBENBERGER Sbornik ent. odd. Nár. Mus. Praze 9.

Agrilomorphus subgen. n. see *Cylindromorphus*.

Agrilus, *Sjostedtius* subgen. n., type *alienatus* n. n. for *thoracica* Kerr. nec C. & G. from *Kamosia*; *gedyei* n. n. for *laticeps* Kerr. nec Wat. from *Kamosia*; *variegata* Th. good sp. p. 29; *ogooeensis* Gaboon p. 51, *pangalae* Congo p. 52, *evansi* Belgian Congo p. 53, spp. n., THÉRY Bull. Soc. Sci. nat. Maroc 11.—*A. mopsus* sp. n. China p. 303, THÉRY Bull. Ann. Soc. ent. Belg. 70.—*A. sarawakensis* n. n. for *minusculus* Kerr. nec Mars.; *praeoccupatus* n. n. for *ocularis* Kerr. nec Deyr. p. 742, HOSCHECK Mitt. zool. Mus. Berl. 17.—*A. obscuricollis* ab. n. *méquignoni* France; *marco-poli* Mongolia p. 108, *kanssuanus* Kansu, *daghestanicus* Daghestan, *macrotatopus* Centr. Asia, *alutaceicollis* Siberia

p. 110, *attila* Mongolia p. 111, *pseudo-coeruleus* Centr. Asia spp. n.; *pseudocyanus* subsp. n. *eogenes* Siberia p. 112, OBENBERGER Acta Soc. ent. Čech. 27 1930.—*A. delagoanus* Delagoa Bay p. 85, *sordidans*, *galiberti* p. 86, *elgonicus* p. 89, *baringanus* E. Africa, *ranavalonae*, *ambodimanganus* p. 95, *nossibanus* p. 85 Madagascar, *sugurovi* Abyssinia p. 86, *eupractus* Lukuledi p. 87, *sperator* p. 88, *braunsi*, *bothai* p. 90, *rhabdiscus* p. 91, *fagniezi* p. 92, *polyctor* p. 93, *kituinus* p. 94, *lydenburgensis* p. 96 S. Africa, *gobbo* p. 88, *mancus* p. 92, *chalex* p. 97 Usambara, *harpagon* p. 88, *colligatus*, *atricapillus* p. 93, *surdisquamis* p. 94, *monstrum* p. 98 Congo, *quaestionis* Djibouti p. 89, *eugenes* Centr. Africa p. 91, *dollmani* Rhodesia p. 97, *fryi* Abyssinia, Senegal p. 96, spp. n., OBENBERGER Sbornik ent. odd. Nár. Mus. Praze 9.—*A.* general notes p. 54, *joukli* p. 56, *luebanus* p. 57, *chrysipleuris* p. 59, *coracicolor* p. 66, *tristicolor* p. 69, *jedlickai* Belgian Congo, *coronifrons* Portuguese W. Africa p. 70, *praetor* p. 57, *cernus* p. 62, *loangensis* p. 63, *ebolowae* p. 64 Kamerun, *lagosinus* Lagos p. 58, *buambanus* p. 59, *advena* p. 68 Uganda, *banguinus* Fr. Congo, *salisburyensis* N.W. Rhodesia p. 60, *luteopictus* p. 61, *indocilis* p. 68 Usambara, *anthrax* p. 63, *quaestor* p. 67 W. Africa, *cholodkovskii* Ashanti, *agnatulus* Nyasaland p. 65, *patricius* Angola p. 67, spp. n., OBENBERGER Ent. NachrBl. 5.—*A. confraternatus*, *kassaigena* p. 117, *irreprehensus* p. 118, *mombassicus* p. 120, *silantjevi* p. 122, *irruptus* p. 123, *meliboeinus*, *balthasari* p. 124, *bumbulinus* p. 125 Trop. Africa, *ephaltes* p. 119, *cupreotinctus* p. 120, *perniger* p. 125 Kamerun, *submendicus* p. 122, *barkeri* p. 126 Natal spp. n., OBENBERGER Folia zool. hydrobiol. 3.

Alyssoderus Deyr., *Angolia* Obenb. a subgen. of p. 181 2, *imperator* Rhodesia, *strandi* p. 114, *transvalensis* p. 115 Transvaal, *rex* Natal, *caesar* Portuguese E. Africa p. 116 3, spp. n., OBENBERGER op. cit.

Angolia see *Alyssoderus*.

Annietta gen. n., *imperator* sp. n. Madagascar p. 184, OBENBERGER Folia zool. hydrobiol. 2.

Anodontodora gen. n. for *Discoderes capicola* Obenb. (type) p. 193, *D. auralans* p. 189, OBENBERGER t.c.

Anthaxia barkeri ab. n. *supracyanæa*; *kamanyabensis* p. 179, *protractula* spp. n.; *vittipennis* ab. n. *aurivittis* p. 180 S. Africa 2; *circe* p. 88, *cytheraea* p. 102, *dollmani* p. 105, *komareki* p. 111 Rhodesia, *moira* p. 90, *kheiliana* p. 102, *lukesi* p. 110 E. Africa, *nixa* Senegal, *myrthia* p. 94, *teirone* p. 96, *nyssa* p. 98, *eudoxia* p. 103, *uzeli* p. 104, *o'neili* p. 105, *pflanzeri* p. 106 S. Africa, *eulioxa* p. 97, *nerissa* p. 107, *mashuna* p. 108 Mashonaland, *pygaera* Mozambique p. 109, *blairi* p. 98 (with var. n. *eleuthera*), *hesperis* p. 99, *davidi* p. 106, *turneri* p. 108 S.W. Africa spp. n.; *sexualis* var. n. *parachroa* S. Africa p. 90; *splendida* ab. n. *eucyanæa* Rhodesia p. 98 3, OBENBERGER op. cit.—*A. angolensis* n. n. for *luctuosa* Obbg. nec Luc. p. 742, HOSCHECK Mitt. zool. Mus. Berl. 17.—*A. ceballosi* sp. n. Spain p. 434 fig., DE LA ESCALERA Bol. Soc. esp. Hist. nat. 31.

Aphanisticus georgi sp. n. p. 110; *cochinchinae* subsp. n. *seminulum* p. 111 Singapore, OBENBERGER Sbornik ent. odd. Nár. Mus. Praze 7 1929.

Aristosoma distinguished from *Thomassetia* p. 111, *suturale* Thnb., *crassum* Waterh. distinct spp. p. 112, THÉRY Bull. Soc. ent. Fr. 1931.—*A. anniae* Obenb. (= *Philanthaxia natalensis* Théry) p. 178, OBENBERGER Folia zool. hydrobiol. 2.

Bolivarina Obenb. distinct, not a synonym of *Anthaxomorphus* Deyr., *insolita* sp. n. S. Africa p. 201, OBENBERGER t.c.

Böttcheria gen. n., *paradisea* (*paradoxa* p. 739) (type) p. 737, *horni* p. 740, spp. n. Philippines, HOSCHECK Mitt. zool. Mus. Berl. 17.

Brachycisseis gen. n. p. 26, *dohertyi* (type) p. 27, *rhodei* p. 28 spp. n. New Guinea figs., THÉRY Bull. Soc. ent. Fr. 1931.—*B.* see *Cisseioides*; *rhodei* see *Neosambus papuanus*.

Buprestis splendens subsp. n. *niponica* Japan p. 727, HOSCHECK Mitt. zool. Mus. Berl. 17.

Callichitones gen. n. p. 181, *semenovi* sp. n. Sierra Leone p. 182, OBENBERGER Folia zool. hydrobiol. 2.

Capnodis excisa var. n. *aericolor* S. Arabia p. 271, BLAIR Ent. Mon. Mag. 67.

Chalcogenia toroënsis sp. n. Uganda p. 178, OBENBERGER Folia zool. hydrobiol. 2.

Chalcophlocteis hauseri sp. n. E. Africa p. 192, OBENBERGER t.c.

Chrysobothris kuntzeni Mindanao p. 142, *facialis* Costa Rica p. 144, *pseud-insularis* Jamaica p. 146 spp. n.; *siamensis* n. n. for *strigicollis* Fisher nec THÉRY p. 742; *indagacea* var. n. *purpureiceps* S. Africa p. 730 figs., HOSCHECK Mitt. zool. Mus. Berl. 17.—*C. fraudi* Zanzibar p. 46, *somereni* Kenya p. 47, spp. n., THÉRY Bull. Soc. Sci. nat. Maroc 11.

Chrysochroa crassicollis sp. n. Philippines p. 290, THÉRY Bull. Ann. Soc. ent. Belg. 70.

Cisseioides Kerr. (= *Brachycisseis* Théry) p. 90, OBENBERGER Bull. Soc. ent. Fr. 1931.

Colobogaster weingärtneri sp. n. Amazonas, Peru p. 137; *splendida* ab. n. *cyanea* Brazil p. 139; *celsa* further description p. 141 figs., HOSCHECK Mitt. zool. Mus. Berl. 17.

Conognatha ovatula sp. n. Brazil p. 148; *principalis* ab. n. *insignata* Rio Grande do Sul p. 156; *sellovi* Klug type of *Pithiscus* group; *thoreyi* Chev. not synonym of *sellovi* p. 151; *sanguinipennis* Mnh. (= *floricola* Ob.) p. 153; *rogersi* Saund. synonymy discussed p. 156 figs., HOSCHECK t.c.—*C. pallidipennis* sp. n. Brazil p. 255 fig., THÉRY Bull. Soc. ent. Fr. 1931.

Coomaniella aureopilosa sp. n. Tonkin p. 43, THÉRY Bull. Soc. ent. Fr. 1931.

Coraeosoma carteri sp. n. Philippines p. 159, HOSCHECK Mitt. zool. Mus. Berl. 17.

Coraeus baumi sp. n. Malacca p. 109, OBENBERGER Sbornik ent. odd. Nár. Mus. Praze 7 1929.—*C. klickai* p. 105, *zoufali* p. 106, *hauseri* p. 107, spp. n. China, OBENBERGER Acta Soc. ent. Čech. 27 1930.

Cylindromorphus (*Agrilomorphus* subgen. n.) p. 335, PORTEVIN Encyc. ent. A 13.

Damarsila foveicollis var. n. *gedyei* Kenya p. 35, THÉRY Bull. Soc. Sci. nat. Maroc 11.

Diplolophotus status p. 84, OBENBERGER Sbornik ent. odd. Nár. Mus. Praze 9.

Discoderes Chev. (= *Paradorella* Obenb.) scope p. 189, *subtilis*, *hessei* spp. n. S. Africa p. 190, OBENBERGER Folia zool. hydrobiol. 2.—*D. capicola*, *aurulans* see *Anodontodora*.

Endelus baumi sp. n. Singapore p. 110 OBENBERGER Sbornik ent. odd. Nár. Mus. Praze 7 1929.

Entomogaster maculipictus, *aequalipennis* spp. n. Madagascar p. 197, OBENBERGER Folia zool. hydrobiol. 2.

Euchroma gigantea, *goliath* distinguishing characters p. 167, distribution p. 168; *gigantea* varr. n. *viridis*, *rubromarginata*, *nigra*; *goliath* varr. n. *camposi*, *infuscata* S. America; *gigantea mrazi* not a valid subsp. p. 169 figs., THÉRY Ann. Soc. linn. Lyon 76.

Eulasiodora singularis sp. n. E. Africa p. 193, OBENBERGER Folia zool. hydrobiol. 2.

Evimantius strandi sp. n. Madagascar p. 181, OBENBERGER t.c.—*E. olsufiewi* sp. n. Analamzotra-Perinet Forest p. 733, HOSCHECK Mitt. zool. Mus. Berl. 17.

Gassneria see *Kamosia*.

Glyptoscelimorpha viridis sp. n. California p. 47, CHAMBERLIN Pan-Pacific Ent. 8.

Halecia corrections to Coleopt. Catalogus (1926) pp. 289–290, *nigriventris* Mexico p. 292, *demuthi* Brazil p. 293, *seraphini* Guiana p. 294, *stuarti* Bolivia p. 295, *cleteriformis* p. 296, *ribbei* Colombia spp. n.; *uro-punctata* var. n. *microsticta* Bogota p. 297, THÉRY Bull. Ann. Soc. ent. Belg. 70.—*H. superba* sp. n. Costa Rica p. 135 fig., HOSCHECK Mitt. zool. Mus. Berl. 17.

Jakovleviola strandi sp. n. S. Africa p. 87, OBENBERGER Folia zool. hydrobiol. 3.

Julodis fimbriata note p. 229, ANDRES Bull. Soc. ent. Egypte 1930.

Kamosia (= *Gassneria* Ob.) discussed, *indigacea* Ob. (= *agricola* Th.) p. 28; *evansi* sp. n. Belgian Congo p. 54, THÉRY Bull. Soc. Sci. nat. Maroc 11.—*K. thoracica* see *Agrilus alienatus*; *laticeps* see *A. gedyei*.

Kerremansia junodi sp. n. S. Africa p. 194, OBENBERGER Folia zool. hydrobiol. 2.

Lampra caspica Persia p. 102, *bourgoini* p. 103, *prosternalis* p. 104 China spp. n., OBENBERGER Acta Soc. ent. Čech. 27 1930.

Melanophila picta abb. n. aksuana Chinese Turkestan, *tedshenica* Transcaspia p. 33, *postmaculata* Perovsk, *syrdarjensis*, *insignis* Syr Daria, *rolandi* Russia p. 34, *completa* Caucasus, *fascigera* N. Hungary, *erivana*, *gaudens* Eriwan p. 35, *octogonifera* Albania p. 36, OBENBERGER Ent. NachrBl. 5.—*M. picta obenbergeri* n. n for *p. subjuncta* Ob. nec Pic p. 9, Pic Echange 47.

Meliboeus Deyr. (= *Nalanda* Théry) p. 202, distribution of African spp. pp. 172–175, *punctatus* Pér. (= *ornatus* Kerr.) p. 174; *zuluanus* p. 203, *malvernensis* p. 204, *gilli*, *contortulus* p. 205, *hirsutus*, *musculus* p. 206, *niveiventris* p. 207, *pretoriae* p. 208 S. Africa, *komárecki* p. 203, *sericeus* p. 206, *pistor*, *mulanganus* p. 207 *sutor* p. 208, *hottentotta*, *parachalceus* p. 209, *flammicoxis* p. 210, *toroënsis* (with subsp. n. *buarinus*), *neavei* p. 211 (with ab. n. *sapphireus*) E. Africa, *angolanus* p. 204 Angola, *croesus* p. 209, *aethiopicus* p. 208 Abyssinia, *doddsi* Rhodesia p. 210, *jakobsoni* Sierra Leone p. 212, *gérardi* p. 203, *burgeoni* p. 212, *karnyi* Belgian Congo; *victor*, *nonfriedi* p. 213, *strandii* p. 215 Burma, *indignus* Sumatra p. 214, *uzeli* Ceylon p. 215, *lineola* p. 216, *jakovlevi* p. 217, *semenovi* p. 218 India, *kalshoveni* Java p. 216, *scintilla* p. 217, *chitchérini* Tenasserim, *buddhaicus* Tonkin p. 218, spp. n.; *transvalensis* abb. n. *cyanicolor*, *catacaustus* Transvaal p. 204, OBENBERGER Folia zool. hydrobiol. 2.—*M. purpureicollis* sp. n. Yunnan p. 399, THÉRY Bull. Ann. Soc. ent. Belg. 70.—*M. monardi* Angola p. 48, *evansi* Belgian Congo p. 49, spp. n., THÉRY Bull. Soc. Sci. nat. Maroc 11.

Metataenia gilvogeniculata sp. n. New Guinea p. 726, HOSCHECK Mitt. zool. Mus. Berl. 17.

Metaxymorpha sternalis sp. n. New Guinea p. 731, HOSCHECK t.c.

Nalanda macnamarai sp. n. New Guinea p. 301, THÉRY Bull. Ann. Soc. ent. Belg. 70.—N. see *Meliboeus*.

Nastella strandii p. 112, *virgo*, *unifformis* p. 113, spp. n. S. Africa, OBENBERGER Folia zool. hydrobiol. 3.

Neopolycesta kerremansella sp. n. Abyssinia p. 176, OBENBERGER op. cit. 2.—*N. gebhardi* sp. n. Madagascar p. 133; *quatuordecimmaculata* subsp. n. *subsignata* S.W. Africa p. 724 fig., HOSCHECK Mitt. zool. Mus. Berl. 17.

Neoptosima see *Sponsor*.

Neosambus papuanus Ob. (= *Brachycisseis rhodei* Théry) p. 90, OBENBERGER Bull. Soc. ent. Fr. 1931.

Nickerleola not synonym of *Pseudagrilus* p. 187, *mashuna* sp. n. Mashonaland p. 188, OBENBERGER Folia zool. hydrobiol. 2.

Pachyschelus fulgidipennis characters p. 260, *vesta* Parana p. 261, *paraguayensis* Paraguay p. 262, spp. n., THÉRY C.R. Ass. franç. Avanc. Sci. Alger 1930.—*P. psychotriæ* sp. n. Panama p. 42, FISHER Proc. Ent. Soc. Wash. 33.

Parademostis gen. n. p. 185, *leprosa* sp. n. S. Africa p. 186, OBENBERGER Folia zool. hydrobiol. 2.

Paradora purpureosignata sp. n. Madagascar p. 735, HOSCHECK Mitt. zool. Mus. Berl. 17.

Paradorella see *Discoderes*.

Paranastella gen. n., *strandii* sp. n. Madagascar p. 198, OBENBERGER Folia zool. hydrobiol. 2.

Philanthaxia purpuricollis sp. n. Aru I. p. 728, HOSCHECK Mitt. zool. Mus. Berl. 17.—*P. natalensis* see *Aristosoma anniae*.

Phlocteis type *exasperatus* Schoenh. p. 189; *diana* Ob. a race of *elegans* Pér.; *holubi* Ob. a var. of *ditissima* Pér.; *intermedia* Transvaal p. 191, *abessynica* Abyssinia, E. Africa p. 192 spp. n., OBENBERGER Folia zool. hydrobiol. 2.

Planidia hauseri E. Africa p. 199, *limpopoensis* (with var. n. *gratiosa*) spp. n. S. Africa p. 200, OBENBERGER t.c.

Polycesta cottyi notes Algeria p. 75, *madoni* sp. n. Cyprus, Greece p. 76 fig., THÉRY Bull. Soc. Hist. nat. Afr. N. 22.

Polycetes igorrata ab. n. *aenea* Formosa p. 136, HOSCHECK Mitt. zool. Mus. Berl. 17.

Polyonychus fisheri sp. n. Philippines p. 161, HOSCHECK t.c.

Promeliboeus strandii subsp. n. *major*; *parallelcollis* sp. n. S. Africa p. 187, OBENBERGER Folia zool. hydrobiol. 2.

Pseudocoraebus strandi sp. n. Madagascar p. 183, OBENBERGER t.c.

Psiloptera pupillata subsp. n. beirae E. Africa; *stuhmanni* Kolbe (= *cupricollis* Kerr.) subsp. n. fuksei S. Africa p. 177, OBENBERGER t.c.

Ptychomus distinct genus, notes on some spp.; *politus* var. n. *hedjazensis* Arabia p. 103; *viridipennis* sp. n. Senegal; *foudrasi* varr. n. *franchettii* Dancalia, *inornatus* Abyssinia, *nigrosuturalis* Obock, *surcoufi* Zanzibar, Transvaal, *erlangeri* p. 104, *curtus* Abyssinia; *grandicollis* distinct sp. p. 105, THÉRY Bull. Soc. ent. ital. 63.

Sambus coerulipennis sp. n. Philippines p. 300, THÉRY Bull. Ann. Soc. ent. Belg. 70.

Scaptelytra lineolata sp. n. Africa p. 176, OBENBERGER Folia zool. hydrobiol. 2.

Sjostedti subgen. n. see *Agrilus*.

Sphenoptera (*Hoplistura*, *Tropeopeltis*) reply to Théry's criticism pp. 40-43, OBENBERGER Bull. Soc. ent. Fr. 1931. — *S. kambyes* sp. n. Baghdad p. 104, OBENBERGER Acta Soc. ent. Cech. 27 1930. — *S. surcoufi* Dar-es-Salaam p. 36, *sicardi* p. 37, *sibuti* p. 41 Chad, *sagda* Ivory Coast p. 38, *crassicollis* Belgian Congo p. 40, *foexi* E. Africa p. 42, *rhodesiae* p. 43, *arnoldi* p. 44 Rhodesia, spp. n. figs., THÉRY Bull. Soc. Sci. nat. Maroc 11.

Sponsor key p. 587, *lesnei*, *dissimilis* p. 588, *raffrayi* p. 589 spp. n. Zanzibar; *Neoptosima* a subgen., *spinosa* Th. discussed p. 590, THÉRY C.R. Ass. franç. Avanc. Sci. Alger 1930.

Sternocera fülleborni subsp. n. *strandii* p. 84; *tricolor* subsp. n. *nympha* E. Africa; *interrupta* subsp. n. *oubanghiana* Fr. Sudan p. 85, OBENBERGER Folia zool. hydrobiol. 3. — *S. interrupta* synonymy, key and characters of varr. pp. 29-33, var. n. *cupricollis* Africa p. 31, THÉRY Bull. Soc. Sci. nat. Maroc 11.

Stigmodera notes on and additions to monograph on pp. 337-339, *fusca*, *pubicollis*, *parvicollis* distinguished p. 337; retabulation of subgen. *Castiarina* pp. 339-367, key p. 349; *brevifasciata* n. n. for *bifasciata* Saund. nec Hope p. 341; *picta* subsp. n. *mallecana*; *eburnea* p. 342, *perlonga*, *discoidea* p. 343, *domina* p. 344, *interstitialis*, *rubella* p.

345, *rubicunda*, *aurantiaca* p. 346, *oblita*, *vulgaris* p. 347, *garrawillae* p. 348, *callubriensis* pp. 367, 386, spp. n.; *flavosignata* var. n. *rufosignata* p. 349 Australia; *cupreoflava*, *violacea*, *equina* distinct spp.; *violacea* MacL. (= *obliquefasciata* Ob.) p. 341; *armata* Thoms. (= *theryi* Cart.) p. 342 figs., CARTER Aust. Zool. 6.

Strandietta gen. n., *schoutedeni* Belgian Congo p. 195, *jakobsoni* Congo p. 196, spp. n., OBENBERGER Folia zool. hydrobiol. 2.

Tetragonoschema cupreocingulatum Bolivia p. 163, *albopilosa* Argentina p. 742, spp. n., HOSCHECK Mitt. zool. Mus. Berl. 17.

Thomassetia raised to gen. rank, distinguished from *Aristosoma* p. 111, THÉRY Bull. Soc. ent. Fr. 1931.

Trachys revision of Asiatic spp. in part pp. 5-106, key p. 8, (*Habroloma*) *baucis* p. 52, *medea* p. 56, *antonia* p. 58, *phrixia* p. 59, *orestea* p. 65, *arche* p. 66 India, *erichtho* p. 52, *clotho* p. 55, *lalage* p. 56, *singhalesa* p. 62, *drusilla* p. 63, *circe* p. 64, *berenice* p. 67, *ceres*, *taygeto* p. 69, *echidna* p. 70 Ceylon, *clymene* p. 53, *anchiale* p. 57, *canace* p. 68 Assam, *chionocheta* p. 54, *eupoeta* p. 61, *praxilla* p. 63, *alphaxia* p. 64, *miwai* p. 65, *nizilla* p. 67 Formosa, *tecMESSa* Burma p. 54, *calypso* Tenasserim p. 55, *septimia* p. 57, *rubripilis* p. 59, *elissa* p. 62 Tonkin, *aglaogea* Singapore p. 60, (*Trachys* s.s.) *calais* p. 71, *bellona* p. 72, *baccha*, *janthe* p. 75, *cybele* p. 76, *danae* p. 79, *bathylla* p. 80, *curia* p. 81, *althaea* p. 84, *polyhymnia*, *proserpina* p. 85, *furia* p. 86, *indra* p. 88, *pertoldi*, *hermione* p. 90, *ida*, *astarte*, *aristaea* p. 91, *thais* p. 92, *andromeda*, *echo*, *dolabella* p. 93 India, *asteria* Penang p. 73, *mariola* p. 74, *elvira* p. 96 Formosa, *hera* p. 76, *serapis*, *olmyra* p. 86, *helenia* p. 97, *eurynome* p. 99, *maia* p. 100 Assam, *hyrcaea* p. 76, *silia* p. 80, *popilia* p. 87, *heliomacha* p. 95 Tenasserim, *arkema* p. 77, *ecmaea* p. 78, *pusillima* p. 81, *fulgurans* p. 85, *aziomache* p. 88, *erato* p. 89, *aequalipennis* p. 90, *mixtipilis* p. 94, *hypsipile* p. 96, *coomani* p. 98, *elga* p. 101, *laodamaea*, *arigaea* p. 102 Tonkin, *polilentia* p. 80, *judith* p. 92, *xenia* p. 98, *downingi* p. 99 Burma, *herilla* p. 83, *flavia* p. 84, *olyra* p. 87, *eryx* p. 89, *euterpe* p. 96, *aristomache* p. 99, *electra* p. 101, *apollonia* p. 103, *aone*, *blairi* p. 104 Ceylon, (*Habroloma*) *pseudacuta* p.

111, *anita* p. 112, *andromache* p. 113, *rosia* p. 114, *baebia* p. 115, *astraea* p. 116 Singapore, *malaccana* p. 112, *baumi* p. 115, *vesta*, *cassiope* p. 116 Malacca, *nausicaa* Java p. 113, *apella*, *sembilanensis* Negri Sembilan p. 114, (*Trachys* s.s.) *semiramis* Singapore, *oncoxia* p. 117, *gapi* Malacca, *krakatoana* Verlaten I. p. 118, *carmentis* Java p. 119, *spp. n.* figs., OBENBERGER *Sbornik* ent. odd. Nár. Mus. Praze 7 1929.—*T. androgaia*, *ephyra* p. 5, *callisto* p. 6, *eriphyla* p. 8, *erigone* p. 11, *caia* p. 12, *leucippe* p. 15 Borneo, *edusa* no locality p. 6, *carna* p. 7, *furnia*, *dido* p. 16, *phoebe* p. 17 Sumatra, *jolas* Malaya, *angilia* p. 7, *euchloris* p. 8, *egeria* p. 9, *hyale* p. 10 Java, *canidia* Brunei p. 9, *sellatula* p. 10, *benquetensis* p. 13, *orcas*, *van rooni* p. 18, *noarche* p. 19 Philippines, *maera* Key I., *clythia* p. 11, *crataeipis* Somerset I., Australia, *elyssia* Batu I. p. 13, *libitina*, *manilia* p. 14, *cleopatra* p. 15 Sarawak, *cicuta* Palawan p. 17, *spp. n.*, OBENBERGER op. cit. 8 1930.—*T. formáneki* p. 112, *vimmeri* p. 113, *klapáleki* China, *reitteri* Korea p. 114, *tyli* Mt. Sussamyr p. 113, *argentipilis*, *marineana* p. 117, *argyroneta*, *dauidiana* p. 118 Kamerun, *spp. n.*, OBENBERGER Acta Soc. ent. Čech. 27 1930.—*T. marshalli* *sp. n.* Tanganyika p. 55 fig., THÉRY Bull. Soc. Sci. nat. Maroc 11.

Tyndaris gigantea *sp. n.* Brazil p. 724, HOSCHECK Mitt. zool. Mus. Berl. 17.

Vanroonia strandi *sp. n.* N.W. Rhodesia p. 185, OBENBERGER Folia zool. hydrobiol. 2.

TENEBRIONIDAE (BORIDAE, RHYSO-PAUSSIDAE, TRETOTHORACIDAE).

Catalogue of Egyptian Tenebrionidae, ANDRES Bull. Soc. ent. Egypte 1931 pp. 74–125.

Catalogue of Tretothoracidae, HETSCHKO Col. Cat. 108 1930 p. 1.

List of Tenebrionids from Pamirs, REICHARDT Abh. Pamir Exped. 1928 2 1930 pp. 27–30, 1 fig.

Tenebrionidae of German-Russian Alai-Pamirs Expedition 1928, REINIG Mitt. zool. Mus. Berl. 16 pp. 865–912, 9 figs.

The family Boridae valid on larval characters of type *unicolor* p. 111 figs., ST. GEORGE Proc. Ent. Soc. Wash. 33.

Abantiades see *Neoabantis*.

Adelostoma sulcatum subsp. *n. crassicornae* Hoggar p. 97, DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.

Adesmia montana subsp. *n. reticulata* p. 92, *asperrima* p. 94 Sahara, DE PEYERIMHOFF t.c.—*A. khaliensis* *sp. n.* S. Arabia p. 270, BLAIR Ent. Mon. Mag. 67.

Akis stricticollis *sp. n.* Morocco p. 26 fig., THÉRY Bull. Soc. Sci. nat. Maroc 11.

Alogenius *n. n.* for *Pedionomus* Haag p. 91, GEBIEN Col. Cat. 15 1910.

Amblycara see *Amblycarenum*.

Amblycarenum *n. n.* for *Amblycara* Fairm. p. 77, GEBIEN Col. Cat. 15 1910.

Artactes see *Tetraphyllus*.

Arthrodeis rotundatus Sol. (= *obliteratus* Sol., *cruciatus* Sol.) p. 77, ANDRES Bull. Soc. ent. Egypte 1931.

Ascelosodis marginatus *sp. n.* Pamirs p. 899, REINIG Mitt. zool. Mus. Berl. 16.

Asida auriculata Sol. (= *bengasiana* Wilke, *mystica* Wilke) p. 98, ANDRES Bull. Soc. ent. Egypte 1931.

Belopus *n. n.* for *Calcar* Latr. p. 459, GEBIEN Col. Cat. 28 1911.

Blaps caraboides ff. *n. alaiensis* p. 877, *emarginata* Alai, *aberrans* Pamirs, *chinensis* China p. 878, *ovata* Central Asia p. 879 figs., REINIG Mitt. zool. Mus. Berl. 16.—*B. haberti* *sp. n.* Hoggar p. 102, DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.

Boros unicolor larva p. 104 figs., ST. GEORGE Proc. Ent. Soc. Wash. 33.

Cacicus see *Megelenophorus*.

Calcar see *Belopus*.

Cyrtosoma testaceicornis *sp. n.* America p. 447, PIC Bull. Mus. Paris (2) 3.

Damatris Cast. (= *Tetraphyllus* auct.) type *formosus* Cast. & Brull. p. 199, BLAIR Ent. Mon. Mag. 67.

Dicraeosis *n. n.* for *Dicraeus* Mars. p. 255, GEBIEN Col. Cat. 28 1911.

Dicraeus see *Dicraeosis*.

Dilamus planicollis subsp. *n. laticeps* Hoggar p. 103, DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.

Epicalla purpureipes *sp. n.* Colombia p. 194, PIC Bull. Soc. ent. Fr. 1931.

- Erodium opaciventris* sp. n. p. 91; *costatus* subspp. n. *iforax*, *garamas* p. 92. Sahara, DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.
- Eustenia* see *Tucumana*.
- Gonocnemis triimpressus* Somaliland p. 30, *infoveolatus* E. Africa p. 31, spp. n., PIC MÉL. exot.-ent. 58.
- Helops fresnoënsis* sp. n. California p. 44, BLAISDELL Pan-Pacific Ent. 8.
- Hydromedion sparsutum* ab. n. *mülleri* S. Georgia p. 238, ENDERLEIN SitzBer. Ges. naturf. Fr. Berl. 1930.
- Idiesa trigonosceloides* sp. n. Turcomenia p. 78, LEBEDEV Ent. NachrBl. 5.
- Itagonia deplanata* sp. n. Pamirs p. 866, REINIG Mitt. zool. Mus. Berl. 16.
- Leucolaeophus arabicus* sp. n. S. Arabia p. 270, BLAIR Eng. Mon. Mag. 67.
- Liboborus* morphology, ethology, distribution pp. 175-207, key p. 207; *moreleti* subsp. n. *peyerimhoffi* p. 185; *clermonti* p. 187, (*Paralitoborus* subgen. n.) *chobauti* p. 190, *escalerae* p. 192 spp. n.; *planicollis* abb. n. *defrictus* p. 194, *rugosus*, *bolivari* p. 195; *olcese* var. n. *atlantis* p. 203 Morocco figs., ANTOINE Bull. Soc. Sci. nat. Maroc 10.—*L. planicollis* subsp. n. *intermedius* France p. 14, PIC Echance 47.
- Megelenophorus* n. n. for *Cacicus* Sol. p. 121, GEBIEN Col. Cat. 15 1910.
- Mimoxenotermes* gen. n., *duporti* sp. n. Tonkin p. 106, PIC Bull. Mus. Paris (2) 3.
- Mitotagenia priesneri* sp. n. Egypt p. 56 figs., ANDRES Bull. Soc. ent. Egypte 1931.
- Mophon diversipes* sp. n. Paramba p. 106, PIC Bull. Mus. Paris (2) 3.
- Neobantis* n. n. for *Abantiades* Fairm. nec H.S. (Lep.) p. 341, GEBIEN Col. Cat. 22 1910.
- Nyctoporus vandykei* sp. n. California p. 41; *carinata* Lec. (= *segnis* Cas.) p. 43, BLAISDELL Pan-Pacific Ent. 8.
- Osdara elongata*, *laticollis* p. 45, *irregularis* (with var. n. *bicoloripes*) p. 46, spp. n. Ceylon, PIC Bull. Soc. ent. Fr. 1931.—*O. metallica* sp. n. S. India p. 139, PIC Bull. Soc. linn. Lyon 10.
- Oterophloeus alveatus* sp. n. Hoggar p. 95, DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.
- Pachychila tumidifrons* Kr. (= *car-daillaci* Peyer.) p. 12, DE PEYERIMHOFF Ann. Soc. ent. Fr. 100.
- Paralitoborus* subgen. n. see *Liboborus*.
- Pedionomus* see *Alogenus*.
- Peneta rufa* sp. n. Venezuela p. 35, PIC MÉL. exot.-ent. 57.
- Phaedis indicus* sp. n. S. India p. 199, BLAIR Ent. Mon. Mag. 67.
- Philammus sericans* new to Egypt p. 58 fig., ANDRES Bull. Soc. ent. Egypte 1931.
- Pimelia arabica* var. n. *thomasi* S. Arabia p. 270, BLAIR Ent. Mon. Mag. 67.—*P. consobrina sparsidens* Reitt. (= *lesnei* Pey.) p. 12, DE PEYERIMHOFF Ann. Soc. ent. Fr. 100.
- Prionotus* see *Prithorax*.
- Prithorax* n. n. for *Prionotus* Muls. & Rey nec Lacép. (fishes) p. 318, GEBIEN Col. Cat. 22 1910.
- Prosodes costifera* f. n. *noethi* Alai p. 872, REINIG Mitt. zool. Mus. Berl. 16.
- Pterolasia multicostata* sp. n. S. Arabia p. 271, BLAIR Ent. Mon. Mag. 67.
- Scleron sulcatum* subsp. n. *saharense* Sahara p. 103, DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.
- Scythis alticola* sp. n. Pamirs p. 901, REINIG Mitt. zool. Mus. Berl. 16.
- Sepidium bispinicollis* Rtt. a good sp. p. 99, ANDRES Bull. Soc. ent. Egypte 1931.
- Stenomacridius reinigi* sp. n. Pamirs p. 903, SCHUSTER in REINIG Mitt. zool. Mus. Berl. 16.
- Strongylium mediofoveatum* sp. n. Assam p. 200, BLAIR Ent. Mon. Mag. 67.—*S. purpureum* var. n. *viridipenne*. Brazil; *dalatense* p. 36 57, *nitidissimum* p. 29 Annam, *uberabanum* Brazil p. 30 58, spp. n., PIC MÉL. exot.-ent.
- Tenebrio molitor* light reactions pp. 576-584, BALFOUR & CARMICHAEL Amer. J. Psychol. 40 1928; experimental division of plates of pronotum p. 428 figs., CAPPE DE BAILLON C.R. Acad. Sci. Fr. 193; oscillation in oxygen requirement of larva pp. 65-75 figs., MICHAEL Zool. Anz. 95; conservation of water in larva pp. 341-353, SCHULZ Biochem. Z. 227 1930; olfactory sense pp. 165-220 figs., VALENTINE J. Exp. Zool. 58.

Tentyria thomasi sp. n. S. Arabia p. 269, BLAIR Ent. Mon. Mag. 67.

Tentyrina orbiculata F., *reichi* Bess. (= *bohmi* Reitt.), *subsulcata* Reiche revised synonymy p. 187, DE PEYERIMHOFF Abeille 31 1923.

Tentyrionota rotundicollis subsp. n. *lucida* Sahara p. 96, DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.

Tetraphyllus Cast. & Brull. type *latreillei* C. & B. (= *Artactes* Pasc.), *purpureipennis* sp. n. S. India p. 199, BLAIR Ent. Mon. Mag. 67.—*T.* auct. see *Damatrix*.

Trichomyatis gen. n. (Platyscelinae) p. 893, *conradi* sp. n. Pamirs p. 894, SCHUSTER in REINIG Mitt. zool. Mus. Berl. 16.

Trichoplatyscelis gen. n. (Platyscelinae), *pamirensis* sp. n. Pamirs p. 895, REINIG t.c.

Tucumana n. n. for *Eustenia* Fairm. nec Snell. p. 604, GEBIEN Col. Cat. 37 1911.

Zopherodes sanctaehelenae sp. n. California p. 111, BLAISDELL Pan-Pacific Ent. 7.

Zophosis sulcata Klug (= *bohemani* Deyr., *maeklini* Deyr., *dakhlensis* And.) p. 82, ANDRES Bull. Soc. ent. Egypte 1931.—*Z. carinata* subsp. n. *supposita*, *astacura* Sahara p. 90, DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.

CISTELIDAE (ALLECULIDAE).

Corrigenda to check list of Australian Cistelidae, CARTER Aust. Zool. 7 p. 33.

Allecula simpliciventris p. 19, *brevespinosa*, *luteifemur*, *breveapicalis* p. 20, *angularifer*, *trimpessa*, *undulata* p. 21, *bicoloriceps*, *incerta* p. 22, spp. n. Brazil, PIC Mém. exot.-ent. 58.

Cacoplesia apicicornis sp. n. Madagascar p. 440, PIC Bull. Mus. Paris (2) 3.

Cteniopus sulphuripes ab. n. *atricollis* Austria p. 135, MADER Ent. Anz. 11.

Dasytoxystropus lemoulti sp. n. Cayenne p. 29, PIC Mém. exot.-ent. 58.

Ectenostoma supplement to Borchmann's revision p. 149, key, *caeruleipennis*, *viridiceps* p. 151, *notaticollis*, *madoni* p. 152, spp. n. Africa, PIC Bull. Soc. zool. Fr. 56.—*E. foveolata*, *sesensis* p. 18, *minuta* p. 19, spp. n. Sesse Is., Victoria Nyanza, PIC Mém. exot.-ent. 58.

Eutrapelodes from p. 211.

Gonodera rufipes var. n. *pauliani* Yeu I., N.W. France p. 13, PIC Echange 47.

Heliotaurus boiteli sp. n. Morocco p. 5, DE PEYERIMHOFF Ann. Soc. ent. Fr. 100.

Hymenorus N. American spp. pp. 161–247, key p. 165, *distinctus* p. 179, *molestus* p. 182, *arkansanus* p. 183, *dubius* p. 184, *caurinus* p. 185, *ulomoides*, *sinuatus* p. 187 (with var. n. *ebeninus*), *macilentus* p. 188, *atratus* p. 189, *illusus* p. 192, *bitumescens* p. 194, *protibialis* p. 196, *cassus* p. 197, *irritus*, *conformis* p. 199, *vigilax* p. 200, *papagonis* p. 201, *parvus*, *semirufus* p. 203, *capensis* p. 205, *jacobinus*, *digressus* p. 206, *montivagus* p. 207, *inutilus* p. 208, *trivialis* p. 210, *fuscipennis* p. 211, *caducus* p. 213, *thoracicus* p. 214, *disparatus* p. 215, *oblivius* p. 216, *alienus* p. 217, *idoneus* p. 218, *tritrus* p. 219, *incertus* p. 220, *tenuistriatus* p. 226, *brevis*, *rufovalis* p. 230, *simiolus* p. 232, *exilis* p. 233, *facetus* p. 234, *horrescens* p. 235, *milleporus*, *nevadensis* p. 236, *significans* p. 237, *conicicollis*, *quietus* p. 239, *texensis*, *heteropygus* p. 241, *inopius* p. 242, *crinitus* p. 244, *liebecki* p. 245, *quadracollis* p. 246, spp. n. N. America; *tenellus* Cas. (= *elbertae* Blatch.) p. 227; *deplanatus* Champ. (= *gemellus* Cas.) p. 231; *punctatissimus* Lec. (= *macer* Cas.) p. 221; *dorsalis* Schw. (= *sabalensis* Blatch.) p. 212; *obesus* Cas. (= *pilosus* Cas.) p. 183, FALL Trans. Amer. Ent. Soc. 57.—*H. inlateralis* sp. n. Brazil p. 23, PIC Mém. exot.-ent. 58.

Isomira konoï n. n. for *formosana* Kono nec Pic p. 171, Mrwa Rep. Dept. Agric., Govt. Res. Inst. Taihoku 55.

Knausia gen. n. p. 15, *crassicornis* sp. n. U.S.A. p. 16, FALL J. Kansas Ent. Soc. 4.

Lobopoda angustatissima, *multiimpressa*, *brasiliensis*, *intermedia* p. 23, *rufomaculata*, *insuturalis* p. 24, *depressicollis*, *obscura* Brazil, *cribricollis* p. 25, *lojaensis* p. 24 Ecuador, spp. n., PIC Mém. exot.-ent. 58.

Lystronychus rubrofasciatus, *ater* p. 26, *semipurpureus* Brazil, *apollinairei* Colombia, *incertus* S. America p. 27, *caracasensis* Venezuela p. 26, spp. n., PIC t.c.

Prostenus angustatus sp. n. Brazil p. 26, PIC t.c.

Synallecula costata sp. n. Sierra Leone p. 556, PIC Ann. Mag. N.H. (10) 8.—*S. longicornis, testaceicornis* spp. n. Gabun p. 27, PIC Bull. Soc. linn. Lyon 10.—*S. leonensis* Sierra Leone, *auberti, madoni* spp. n.; *benitoensis* var. n. *obliteratus* Gabun p. 4, PIC Echange 47.—*S. atripalpis* sp. n. Dahomey p. 19, PIC Mél. exot.-ent. 58.

Xystropus geniculatus Colombia p. 27, *caeruleus, clermonii, grandis* p. 28, *amazonicus* Brazil, *minor* Fr. Guiana p. 29, spp. n., PIC t.c.

LAGRIIDAE.

Borchmannia riangana Sumatra p. 30, *prelateralis* (with var. n. *obliterata*) Mindanao spp. n.; *dissimilis* var. n. *reducta* Borneo; *violaceocincta* var. n. *scapularis* Sumatra; *nigrifinis* var. n. *sanguinea* no locality p. 31, PIC Mél. exot.-ent. 57.

Disema bicoloripennis sp. n. Brazil p. 14, PIC op. cit. 58.

Eutrapelodes scutellaris sp. n. Eritrea p. 263, PIC Bull. Soc. ent. Fr. 1931.

Lagria uniimpressa, vitalisi Indo-China p. 33, *chapaensis, atosuturalis, basipennis* p. 34, *triimpressa, jeanvoinei* p. 35 Tonkin 57, *cyaneiceps* Cochin China, *coomani* p. 15, *lajoyei, semihirta* p. 16 Tonkin, *laosensis* Laos p. 15 58, spp. n., PIC Mél. exot.-ent.

Lophophyllus simplicicollis sp. n. Madagascar p. 440, PIC Bull. Mus. Paris (2) 3.

Mimuroplatopsis gen. n., *atricolor, bicolor* spp. n. Madagascar p. 32, PIC Mél. exot.-ent. 57.

Nemostira marginicollis sp. n. Madagascar p. 31, PIC t.c.

Sora multistriata Tonkin, *villosipennis* Annam, *caeruleicollis* p. 13, *sicardi* p. 14 spp. n.; *metallica* var. n. *obscurior* p. 13 Madagascar, PIC op. cit. 58.

Staius basipes sp. n. Madagascar p. 31, PIC op. cit. 57.

Uroplatopsis reducta sp. n. Costa Rica p. 33, PIC t.c.

MONOMMIDAE.

Catalogue of Monommidae, SCHENKLING Col. Cat. 117 7 pp.

MELANDRYIDAE (SERROPALPIDAE).

Catalogue of Serropalpidae, CSIKI Col. Cat. 77 1924 62 pp.

Conopalpus (*Conomorphus* in error) *brevevittatus* sp. n. Brazil p. 33, PIC Mél. exot.-ent. 58.

Eustrophinus atromaculatus sp. n. Uganda p. 555, PIC Ann. Mag. N.H. (10) 8.

Falsostictodrya gen. n., *biimpressa* sp. n. Madagascar p. 17, PIC Mél. exot.-ent. 58.

Microscapha nigronotata sp. n. Luzon p. 17, PIC t.c.

Perakianus bicolor sp. n. N. India p. 201, BLAIR Ent. Mon. Mag. 67.

Phloeotrya fasciata sp. n. Costa Rica p. 18, PIC Mél. exot.-ent. 58.

Physcius corumbanus, bicolor, ruficeps spp. n. Brazil p. 32, PIC t.c.

Synchroa punctata food requirements pp. 13-15, PAYNE Ent. News 42.

Talayra striata sp. n. N. India p. 200, BLAIR Ent. Mon. Mag. 67.

Tetratoma ancora subsp. n. *pfefferi* Sweden p. 75, ROUBAL Acta Soc. ent. Cech. 27 1930.

Thisias discoidalis sp. n. Brazil p. 31, PIC Mél. exot.-ent. 58.

Thisiomorphus gen. n., *latus* sp. n. Brazil p. 31, PIC t.c.

SCRAPTIIDAE.

Scraptia straminea sp. n. Centr. Sahara p. 85, DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.

PYTHIDAE.

Sphaeriestes gabrieli new to Ireland p. 18, O'MAHONY Ent. Mon. Mag. 67.

OEDEMERIDAE.

Matusinhosa callosicollis var. n. *atricolor* Brazil p. 29, PIC Mél. exot.-ent. 57.

Oncomera femorata seas. f. n. *trenerei* Trentino p. 160 fig., HARTIG Studi trentini (2) 7 1926.

Oxaxis maublanci sp. n. Brazil p. 30, PIC Mél. exot.-ent. 57.

Pseudolycus sinuaticollis, ater spp. n.; *antennatus* var. n. *nigriceps* Madagascar p. 29, PIC t.c.

Sessinia maculata sp. n. Madagascar p. 18, PIC op. cit. 58.

Sisenopyras reductus, *atripennis*, *scutellaris* spp. n. Brazil p. 12, PIC Echange 47.

PYROCHROIDAE.

Dendroides canadensis food requirements pp. 13–15, PAYNE Ent. News 42.

ANTHICIDAE.

Contribution to the knowledge of Indian Anthicids, KREKICH-STRASSOLDO *Folia zool. hydrobiol.* 3 pp. 1–41, 3 pls.

Amblyderus longipilis sp. n. Fr. Somaliland p. 11, PIC Mél. exot.-ent. 58.

Anthicus setulosus Boh. (= *umbrinus* Laf.) p. 126, LINDROTH Ent. Tidskr. 51 1930.—*A. heroicus* predacious habits p. 202, MUSGRAVE Ent. News 42.—*A. thienemanni* sp. n. Java p. 676, HEBERDEY Arch. Hydrobiol. Suppl. 8.—*A. rubens*, *lactipennis* p. 20, *inconspicuus* (with var. n. *alternans*), *lamprinulus*, *rubiginosus* p. 21, *gravidulus* p. 22, *serotinus* (also Ceylon), *punctiger* p. 23, *plagiellus* p. 24, *strandii*, *gravidus* p. 25, *sporadicus*, *striaticollis* p. 26, *uniformis*, *cordatus* p. 27, *comes*, *brunneipes* p. 28 (with subsp. n. *comparabilis*), *immaculipennis* p. 29, *aquatilis*, *protervus* p. 30, *tersus* p. 31, *atratus*, *posthumus* p. 32, *almorae* (with subsp. n. *paradoxus*), *ambustus* p. 33, *adustus* p. 34, *commaculatus* p. 36, *mirandus* p. 37, *plagifer* p. 38, *fornicatus*, *fumeoalatus* p. 39 India, *assequens* Korea p. 35, *austerus* Andamans p. 37 spp. n.; *subcoeruleus* subsp. n. *lampros* India p. 36 figs., KREKICH-STRASSOLDO *Folia zool. hydrobiol.* 3.—*A. torre-tassoi* sp. n. (PIC); *cinctus* var. n. *rossii* p. 66 (PIC); *coniceps* subsp. n. *sedjoumiensis* p. 67; *schatzmayri* p. 68, *picianus* p. 75 spp. n.; *brevicornis* var. n. *coloratus*; *goebeli* var. n. *intermedius*; *modestus* subsp. n. *erichi* p. 77 N. Africa; *larvipennis* p. 69, *testaceipes* p. 71 discussed; *italicus* Pic a sp. p. 72; *blandulus* Baudi a sp. p. 74 figs., KOCH Mem. Soc. ent. ital. 10.—*A. corumbanus* Brazil, *semiamplus* Tonkin, spp. n. p. 10, PIC Mél. exot.-ent. 58.—*A. imbasicornis* Spain p. 6, *madoni* Algeria p. 9 spp. n.; *dejeani* var. n. *mediodiversus* Corsica; *angustatus* var. n. *vendeensis* p. 13;

plumbeus var. n. *seynensis* France; *fasciatus* var. n. *krekichii* p. 14, PIC Echange 47.

Endomia gracilicornis E. Africa, *maculata* S. Africa, spp. n. p. 138, PIC Bull. Soc. linn. Lyon 10.—*E. dilataticornis* sp. n. Zambesi p. 12, PIC Mél. exot.-ent. 58.—*E. multipunctata* sp. n. Abyssinia p. 184, KREKICH-STRASSOLDO Abeille 31 1923.

Formicomus fossiceps sp. n. Abyssinia p. 183, KREKICH-STRASSOLDO t.c.—*F. psilopterus* p. 1, *cinchonae* p. 2, *strandii* p. 3, *pilumnus* p. 5, *tenuis* p. 6, *viridipennis* p. 7, *barbipes* p. 9, *basalis* p. 10, *nigrivestis* p. 13, *asphaltinus* p. 14 India, *corruscus* p. 4, *nitescens* p. 5, *lacetosus* p. 11 Kumaon, *fuscipes* Formosa p. 9, *corrugatus* Coch. *forticornis* Ned. Indies p. 12 spp. n.; *braminus* subsp. n. *badius* India, *candens* Japan p. 8; *sulcipes* subsp. n. *consobrinus* India p. 9 figs., KREKICH-STRASSOLDO *Folia zool. hydrobiol.* 3.—*F. angolensis* sp. n. Angola p. 422, PIC Rev. suisse Zool. 38.

Inamblyderus scabridus sp. n. India p. 15 fig., KREKICH-STRASSOLDO *Folia zool. hydrobiol.* 3.

Leptaleus grossodanus sp. n. Brazil p. 10, PIC Mél. exot.-ent. 58.

Mecynotarsus adumbratus sp. n. Abyssinia p. 182, KREKICH-STRASSOLDO Abeille 31 1923.—*M. sericellus* sp. n. Hongkong p. 1, KREKICH-STRASSOLDO *Folia zool. hydrobiol.* 3.

Notoxus Japanese spp. and key p. 1, *hokkaidensis* sp. n. Japan p. 2, KÔNO Ins. mats. 6.—*N. monoceros* var. n. *achardi* France p. 14, PIC Echange 47.

Pseudoleptaleus moestus subsp. n. *agnatus* Assam; *angustior* Kumaon p. 16, *brevitarsis*, *apricans* p. 17, *fumatus*, *carmichaeli* p. 18 India, spp. n. figs., KREKICH-STRASSOLDO *Folia zool. hydrobiol.* 3.—*P. sulcatithorax* sp. n. Luzon p. 11, PIC Mél. exot.-ent. 58.

Pseudonotoxus squamifer sp. n. Abyssinia p. 181, KREKICH-STRASSOLDO Abeille 31 1923.

HYLOPHILIDAE.

Hylophilus maynei p. 43, *schoutedeni* p. 44, spp. n. Belgian Congo, PIC Rev. Zool. Bot. afr. 21.—*H. medioglaber* sp. n. Tonkin p. 12, PIC Mél. exot.-ent. 58.—*H. lucifugus* sp. n. Sumatra p. 678, HEBERDEY Arch. Hydrobiol. Suppl. 8.

MELOIDAE.

Meloidae of S. Dakota, CARRUTH Ent. News 42 pp. 50-55.

Key to known primary larvae of German Meloids, HACHFELD Z. wiss. InsektBiol. 26 pp. 45-47.

Catalogue of Palaearctic Mylabrini, SUMACOV SitzBer. naturf. Ges. Tartu 37 1930 pp. 1-114.

Apalus balachowskyi sp. n. Biskra p. 83, DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.

Cerocis marshalli var. n. *bisbinotata* Delagoa Bay p. 196, PIC Bull. Soc. ent. Fr. 1931.—*C. interna* varr. n. *multijuncta*, *tinanti*, *submarginata* p. 97; *congoana* var. n. *communis* p. 98 Belgian Congo, PIC Rev. Zool. Bot. afr. 21.

Coryna biological notes on and primary larvae of Algerian spp. pp. 156-174 figs., CROS Bull. Soc. Sci. nat. Maroc 10.—*C. 12-punctata* var. n. *duvivieri* Belgian Congo p. 97, PIC Rev. Zool. Bot. afr. 21.

Decatoma overlaeti sp. n. Belgian Congo p. 96, PIC t.c.—*D. bodongi* sp. n. E. Africa p. 196, PIC Bull. Soc. ent. Fr. 1931.

Epicauta erythrocephala pseudopupa, last larval instar pp. 379-382 figs., YAKHONTOV Bull. Ent. Res. 22.

Lydus praeustus ab. n. *hauseri* Persia p. 136, MADER Ent. Anz. 11.

Meloë spp. notes on primary larvae pp. 42-45 figs., HACHFELD Z. wiss. InsektBiol. 26; biology, development, morphology pp. 189-227, CROS Ann. Sci. nat. (Zool.) (10) 14.

Mylabris tricolor a good sp., var. n. *atribasis* Delagoa Bay; *alternata* var. n. *peringueyi* Africa p. 105; *tanganikana* sp. n. Tanganyika p. 196, PIC Bull. Soc. ent. Fr. 1931.—*M. geminata* *pueli* n. n. for var. *fenestrata* *Puel* praecoc. p. 22; *quadripunctata* *chobautia* n. n. for var. *vareillesi* Chob. praecoc. p. 37, SUMACOV SitzBer. naturf. Ges. Tartu 37 1930.—*M. elongata* Herbst (= *ledebouri* Gebl.) p. 136, MADER Ent. Anz. 11.

Psalydolytta bicoloriceps sp. n. Belgian Congo p. 95, PIC Rev. Zool. Bot. afr. 21.

Zonabris burgeoni, *achteni* spp. n. Belgian Congo p. 98, PIC t.c.—*Z. biseptemaculata* var. n. *maublanci* Ubangi p. 30,

PIC Mél. exot.-ent. 57.—*Z. silbermanni* primary larva p. 82, CROS Bull. Soc. Hist. nat. Afr. N. 22.

Zonitoschema testaceiventris sp. n. S. Rhodesia p. 557, PIC Ann. M. N. H. (10) 8.—*Z. burgeoni* sp. n. p. 95; *coccinea* var. n. *charliersi* p. 96 Belgian Congo, PIC Rev. Zool. Bot. afr. 21.

MORDELLIDAE.

Mordellidae of Ingria, with keys, SHCHEGOLEVA-BAROVSKAYA Annu. Mus. zool. Acad. Leningrad 32 pp. 51-65, 2 figs.

Anaspis thoracica var. n. *occipitalis* p. 61, *obscurocolor* p. 62 Ingria, SHCHEGOLEVA-BAROVSKAYA Annu. Mus. zool. Acad. Leningrad 32.—*A. atricolor*, *maynei* spp. n. Belgian Congo p. 50, PIC Rev. Zool. Bot. afr. 21.—*A. madecassa* Madagascar, *tonkinea* Tonkin, *testaceicornis* Djibouti p. 28, *auberti* Gabun p. 29, spp. n., PIC Mél. exot.-ent. 57.—*A. geoffroyi* var. n. *binterrupta* France p. 6, PIC Echange 47.—*A. cavipalpis*, *bernikovi* p. 37, *serbica* p. 38, spp. n. Jugoslavia, APFELBECK Ent. Anz. 11.—*A. geoffroyi* ab. n. *nigra* England p. 29, DONISTHORPE Ent. Mon. Mag. 67.

Anthobates redemptus sp. n. Hoggar p. 86, DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.

Calycella impressa sp. n. Congo p. 262, PIC Bull. Soc. ent. Fr. 1931.

Calycina gardneri sp. n. India p. 203, BLAIR Ent. Mon. Mag. 67.

Conalia fasciata sp. n. Belgian Congo p. 46, PIC Rev. Zool. Bot. afr. 21.

Glipa testaceiventris p. 44, *griseosuturalis* p. 45, spp. n. Belgian Congo, PIC t.c.—*G. brevicauda* S. India p. 201, *stenalioides* Andamans p. 202, spp. n., BLAIR Ent. Mon. Mag. 67.—*G. luteofasciata* sp. n. Nyasaland p. 555, PIC Ann. Mag. N. H. (10) 8.

Mordella woodi sp. n. Nyasaland p. 556, PIC t.c.—*M. fallaciosa* Bokhara p. 750, *curvipalpis* E. Persia p. 751, spp. n. figs., SHCHEGOLEVA-BAROVSKAYA C. R. Acad. Sci. U. R. S. S. (A) 1930.—*M. fasciata* varr. n. *nigrosuturalis*, *conjuncta*, *subbasalis* p. 56, *ruficornis*, *nigricornis* p. 57; *aculeata* var. n. *nigripalpis* p. 59 Ingria, SHCHEGOLEVA-BAROVSKAYA Annu. Mus. zool. Acad. Leningrad 32.—*M. incisura* p. 311, *leucopleura* p. 313, *biauronotata* p. 311, *mcnamarae* p. 312, *tetraleucosticta*,

incisa p. 313 New Guinea, *lachrymosa* Fiji p. 319, **spp. n. figs.**, LEA Trans. Ent. Soc. Lond. **79**.—*M. aeneosignata* Bombay p. 202, *cinereoplagiata* United Provinces p. 203, **spp. n.**, BLAIR Ent. Mon. Mag. **67**.—*M. bisbisignata* Congo p. 26, *nigricolor* Gabun p. 27, **spp. n.**, PIC Mél. exot.-ent. **57**.—*M. maynei* p. 45, *unimaculata* p. 46, **spp. n. Belgian Congo**, PIC Rev. Zool. Bot. afr. **21**.

Mordellistena schoutedeni, *maculiceps* p. 46, *atriventris*, *variabilis* (with **var. n. differens**, *obscurior*), *gracilipes* p. 47, *motoensis*, *vittatipennis*, *apiciventris*, *burgeoni* p. 48, **spp. n. Belgian Congo**, PIC t.c.—*M. semiferruginea* f.n. *nigroangulata* Czechoslovakia p. 184, ROUBAL Ent. Bl. **27**.—*M. rectangula* Thoms. a good sp. p. 120 figs., LINDROTH Ent. Tidskr. **51** 1930.—*M. glipodoides* **spp. n. S. India** p. 204; *rufobrunnea* ♂ further described p. 205, BLAIR Ent. Mon. Mag. **67**.—*M. epicallens*, *majorina* p. 315, *cryptomela*, *egregria*, *iridipennis* p. 316, *imponderosa*, *pustoxalis*, *iridomela* p. 317, *serratipes*, *bimaculicollis* p. 318 Papua, *inscripta* Fiji p. 320, **spp. n. figs.**, LEA Trans. Ent. Soc. Lond. **79**.—*M. testaceicornis* Congo, *trisignata* p. 27, *hoana* p. 28 Tonkin, **spp. n.**, PIC Mél. exot.-ent. **57**.—*M. similis* **spp. n. Lugansk** p. 752, SHCHEGOLEVA-BAROVSKAYA C.R. Acad. Sci. U.R.S.S. (A) **1930**.

Silaria antennalis **spp. n. Yakutsk** p. 752, SHCHEGOLEVA-BAROVSKAYA t.c.

Tomoxia robusta **spp. n. Belgian Congo** p. 45, PIC Rev. Zool. Bot. afr. **21**.—*T. oblongifera* p. 314, *suboblongifera* p. 315, **spp. n. Papua**, LEA Trans. Ent. Soc. Lond. **79**.

RHIPHOPHORIDAE.

Macrosiagon raffrayi new to Egypt p. 136, PIC Bull. Soc. ent. Egypte **1931**.—*M. longicollis* **spp. n. Uganda** p. 55, PIC Ann. Mag. N.H. (10) **8**.

Metoecus paradoxus symbiotic habits p. 197, STELFOX Irish Nat. J. **2** 1929.

STYLOPIDAE.

Notes on position of Strepsiptera on hosts, III, ROBERTSON Bull. Brooklyn Ent. Soc. **26** pp. 45-46.

Elenchus japonicus **spp. n. Japan** in 59 pp., ESAKI & HASHIMOTO Pub. Ent. Lab. Kyushu Imp. Univ. no. **2**.

Tettigozenos orientalis **spp. n. Japan** in 59 pp., ESAKI & HASHIMOTO t.c.

Lamellicornia.

Some interesting records of Palaearctic Scarabaeidae, BALTHASAR Wien. ent. Ztg. **48** pp. 58-60.

First supplement to list of coprophagous Coleoptera of China, BOUCCOMONT Lingnan Sci. J. **10** pp. 451-453.

Revision of Scarabaeids of Pensa, DMITRIEV Penza State Reg. Mus. **1926** 22 pp.

List of Scarabaeids from Pamirs, MEDVEDEV Abh. Pamir Exped. 1928 **2** 1930 pp. 55-58, 1 fig.

Morphology and taxonomy of larvae of certain may-beetles occurring in nurseries of Korea, MURAYAMA Bull. For. Expt. Sta. Chosen **11** 108 + iv pp. 17 pls. 6 tables.

Catalogue of Euchirinae, pp. 1-6; Phaenomerinae pp. 7-8, OHAUS Col. Cat. **66** 1918.

Contribution to the knowledge of the Scarabaeid fauna of Volhynia, SSVATSHENKO Trav. Mus. zool. Kiev no. **10** pp. 43-62.

PASSALIDAE.

Monograph of Passalidae of Brazil, LUEDERWALDT Rev. Mus. paul. **17** pp. 1-262, 2 pls. 26 figs.

Erionomus characters, key p. 128, list of African spp. p. 129, HINCKS Ent. Mon. Mag. **67**.

Passalus tarunayi p. 86, *bucki* p. 182, *elfriedae* p. 183, *santensis* p. 234, **spp. n.**; *morio* **var. n. triangularifrons** p. 104; *anguliferus* **var. n. pauloensis** p. 108; *punctiger* subsp. *n. riograndensis*, **var. n. microcollis** p. 180; *zikani* further description p. 203 figs., LUEDERWALDT Rev. Mus. paul. **17**.—*P. mucronatus* **var. n. ancoriformis** Mexico p. 62 fig., LUEDERWALDT Rev. Ent. S. Paulo **1**.

Paxillus pentaphylloides **spp. n.** (with **var. n. nudihumerus** p. 226) Brazil p. 225, LUEDERWALDT Rev. Mus. paul. **17**.—*P. alfari* **var. n. rufiventris** Costa Rica p. 63; *pleuralis* **spp. n. Bolivia** p. 64, LUEDERWALDT Rev. Ent. S. Paulo **1**.

Popilius striatopunctatus **varr. n. mancus**, *pedunculatus* Costa Rica p. 63, LUEDERWALDT t.c.

LUCANIDAE.

Morphological and biological notes on Lucanids, CATHERINE Bull. Soc. linn. Seine-Marit., Le Havre 15 1929 pp. 5-6.

List of Lucanidae from Korea, CHO J. Chosen Nat. Hist. Soc. 12 pp. 56-60, 1 pl.

Relative growth of mandibles in stag-beetles, HUXLEY J. Linn. Soc. Lond. Zool. 37 pp. 675-703, 9 figs.

Lucanidae of the Japanese Empire, I, MIWA Trans. N.H. Soc. Formosa 21 pp. 315-325, 6 figs.

Aegus pichoni Che-kiang p. 210, *dispar* Fu-kien p. 211, spp. n., DIDIER Lucanides du Globe fasc. 9.

Brontodorcus subgen. n. see *Serrognathus*.

Cyclommatus gestroi sp. n. New Guinea p. 138 fig., NAGEL Ann. Mus. Genova 55.

Dorcus gen. n., *bouvieri* (type) Timor p. 160, *difformipes* Queensland p. 163 spp. n. figs., DIDIER Lucanides du Globe fasc. 7 1930.

Dorcus revision pp. 175-209 (*Dynodorcus* subgen. n. p. 195 fascs. 8 and 9), *fuscescens* sp. n. Sumatra p. 229 fasc. 9 figs., DIDIER op. cit.

Dynodorcus subgen. n. see *Dorcus*.

Eurydorcus subgen. n. see *Eurytrachellelus*.

Eurytrachellelus n. n. for *Eurytrachelus* Thomson nec Motsch. p. 185 (*Eurydorcus*, *Telodorcus*, *Goniodorcus*, *Lasiidorcus* subgen. n. p. 196) figs., DIDIER Lucanides du Globe fasc. 8.

Eurytrachelus see *Eurytrachellelus*.

Figulus humeralis p. 165, *nubilus* p. 169 Tenimber I., *gracilentus* Amboina, *monochromus* Fiji p. 171, *fusconitens* Nias I. p. 172, spp. n. figs., DIDIER op. cit. fasc. 7 1930.

Goniodorcus subgen. n. see *Eurytrachellelus*.

Lanprisma caerulea described p. 223 figs., DIDIER op. cit. fasc. 9.

Lasiidorcus subgen. n. see *Eurytrachellelus*.

Leptinopterus v-nigrum ab. n. im-maculatus; *puncticollis*, *nitidus* p. 123, *rotundicollis* p. 124, *robustus* p. 127,

pellitomarginatus, *suturalis* spp. n.; *femoratus* ab. n. *lucidus* p. 125; *gracilis* ab. n. *rufipes* p. 126; *tibialis* ab. n. *fulvus*, *castaneus* p. 124 Brazil, LUEDERWALDT Bol. Mus. nac. Rio de Janeiro 6 1930.—*L. bicolor* sp. n. Brazil p. 423, LUEDERWALDT Rev. Mus. paul. 17.

Lucanus laevigatus sp. n. Fu-kien p. 225 fig., DIDIER Lucanides du Globe fasc. 9.

Neolucanus castanopterus var. n. *melas* Naga Hills p. 146; *spicatus* p. 141, *lividus* p. 142 Foochow, *maculosus* no locality p. 143 fasc. 7 1930, *versicolor* S. India p. 228 fasc. 9, spp. n. figs., DIDIER op. cit.

Odontolabis planiceps Amboina p. 147, *falcepedius* no locality p. 148, spp. n. figs., DIDIER op. cit. fasc. 7 1930.

Oonotus adpersus descriptions discussed pp. 151-159 figs., DIDIER t.c.

Prosopocoelus capricornus Tonkin p. 173 fasc. 8, *crassus* Java p. 227, *parallelus* E. Indies p. 231 fasc. 9 spp. n. figs., DIDIER op. cit.

Rhaetulinae subfam. n. p. 323, MIWA Trans. N.H. Soc. Formosa 21.

Sclerognathus ruficollis sp. n. Brazil p. 425, LUEDERWALDT Rev. Mus. paul. 17.

Serrognathus (*Brontodorcus* subgen. n.; type *alcides* Voll.) p. 202 figs., DIDIER Lucanides du Globe fasc. 8.

Telodorcus subgen. n. see *Eurytrachellelus*.

COPRIDAE.

Fauna of British India, Coprinae, ARROW Taylor & Francis 1931 xii + 428 pp. 13 pls. 1 map.

Key for determination of American Pinotides, LUEDERWALDT Rev. Mus. paul. 17 p. 366.

Aulonocnemis revision of Schaufuss and Fairmaire collections pp. 25-31, characters p. 25, key p. 27, *scharfussii* p. 30, *pygidialis* spp. n. Madagascar; *crassecostata* var. n. *fairmairei* Comoro p. 31, BOUCOMONT Ent. NachrBl. 5.

Caccobius key to Indian spp. p. 142, *diminutivus* Wlk. (= *Onthophagus setulosus* Mots.) p. 143; *unicornis* F. (= *nitidiceps* Fairm.) p. 145; *vulcanus* F. (= *Caccophilus mutans* Sharp) p. 151; *rufipennis* Mots. (= *rufipennis*

Har.); *torticornis* p. 144, *inermis* p. 147, *pantherinus* p. 154, **spp. n.** India figs., ARROW Fn. Br. Ind. Col. Lamell. pt. 3.

Caccophilus mutans see *Caccobius vulcanus*.

Copris key to Indian spp. p. 102, *sodalis* Wlk. (= *taprobanus* Gill.) p. 114; *doriae* Har. (= *vitalisi* Gill.) p. 119; *delicatus* p. 117, *surdus* p. 132, **spp. n.** India figs., ARROW Fn. Br. Ind. Col. Lamell. pt. 3.

Delopleurus striatus **sp. n.** India p. 411, ARROW t.c.

Gymnopleurus mombelgi **sp. n.** China p. 760, BOUCOMONT Lingnan Sci. J. 7.—*G. dejeani* Cast. (= *inconspicuus* Wat.); *ruficornis* Mots. (= *subtilis* Wat.) p. 59; *sumptuosus* Cast. (= *splendens* Cast.) p. 61; *biharensis* p. 62, *bombayensis* p. 65, *sindensis* p. 66 **spp. n.** India figs., ARROW Fn. Br. Ind. Col. Lamell. pt. 3.

Haroldius stевensі **sp. n.** Bengal p. 416 fig., ARROW t.c.

Liatongus rhinoceros **sp. n.** p. 363; *affinis* **var. n.** *capricornis* p. 368 India fig., ARROW t.c.

Onitis excavatus p. 391, *subopacus* p. 395, **spp. n.** India; *philemon* F. (= *distinctus* Lansb.) p. 393; *virens* Lansb. (= *amplectens* Lansb.) p. 396; *crassus* Sharp (= *vischnu* de Borre) p. 400 figs., ARROW t.c.

Ontherus keys pp. 369, 392, *zikani* **var. n.** *carinicollis* p. 375; *grandis* **sp. n.** p. 419 Brazil figs., LUEDERWALDT Rev. Mus. paul. 17.

Onthophagus gulo p. 164, *oculatus* p. 168, *digitatus* p. 177, *aviculus* p. 179, *dynastoides* p. 182, *jucundus* p. 188, *kanarensis* p. 191, *griseosetosus* p. 192, *suillus* p. 194, *amphinusus* p. 195, *necrophagus* p. 196, *vultur* p. 197, *bisectus* p. 201, *coorgensis* p. 202, *chrysurus* p. 211, *gratus* p. 212, *brutus* p. 215, *metalliceps* p. 218, *sternalis* p. 222, *exquisitus*, *arboreus* p. 225, *acuticollis* p. 237, *abreui* p. 239, *laborans* p. 240, *zebra* p. 249, *orissanus*, *felix* p. 257, *madoqua* p. 258, *vulpinus* p. 262, *solidus* p. 265, *trochilus* p. 266, *lapillus* p. 267, *rana* p. 268, *kumaonensis* p. 274, *circulifer* p. 274, *furcicollis* p. 276, *hingstoni* p. 278, *refulgens* (also Ceylon) p. 281, *paliceps* p. 287, *nasalis* p. 288, *hindu* p. 289, *mirandus* p. 290, *ruficauda* p. 295, *fossor* p. 300, *hamaticeps* p. 308,

beesoni p. 319, *iyengari* p. 323, *andrewesi* p. 324, *porcus*, *socialis* p. 325, *agari-cophilus* p. 333, *frugivorus* p. 336, *nagpurensis* p. 342 India, *taprobanus* Ceylon p. 299 **spp. n.**; *laevis* **var. n.** *stevensi* p. 172; *urellus* **var. n.** *nilgirinus* p. 298; *troglydyta* Wied. (= *spitiensis* Gill.) p. 207; *semicinctus* d'Orb. (= *bufo* Arr.) p. 294; *luridipennis* Boh. (= *fuscopunctulatus* Bouc.) p. 317; *truncaticornis* Schall. (= *forcipatus* Har.) p. 322; *mopsus* F. (= *gracilicornis* Germ.) p. 328; *hastifer* Lansb. (= *turmalis* Gill.) p. 330; *bifasciatus* F. (= *birmanicus* Har.) p. 339; *cervus* F. (= *nuchidens* F.) p. 348 figs., ARROW Fn. Br. Ind. Col. Lamell. pt. 3.—*O. egenus* further description p. 769, BOUCOMONT Lingnan Sci. J. 7.—*O. reichardti* **sp. n.** Pamirs p. 57, MEDVEDEV Abh. Pamir Exped. 1928 2 1930.—*O. boucomonti* p. 270, *clermonti*, *coomani* p. 271, *pseudojavanus* p. 272, **spp. n.** Tonkin, PAULIAN Bull. Soc. ent. Fr. 1931.—*O. setulosus* see *Caccobius diminutivus*.

Panelus puncticollis, *setosus* **spp. n.** Ceylon p. 406 fig., ARROW Fn. Br. Ind. Col. Lamell. pt. 3.

Parachorius hookeri Sikkim p. 359, *globosus* Bengal p. 360, **spp. n.**, ARROW t.c.

Paraphytus andamanus **sp. n.** Andaman Is. p. 419, ARROW t.c.

Phacosoma triste p. 355, *laetum* p. 356 India, *cingalense* Ceylon p. 357, **spp. n.** fig., ARROW t.c.

Pinotus ascanius **subsp. n.** *piceus*, *rotundiceps* p. 119; *acuticornus*, *rugosipennis* p. 120, *punctulatipennis* p. 122 **spp. n.** Brazil, LUEDERWALDT Bol. Mus. nac. Rio de Janeiro 6 1930.—*P. apicalis* Amazonas (with *ab. n. truncatus* Guiana p. 299), *interstitialis* Brazil p. 300, *validipilosus* Venezuela p. 303 **spp. n.**; *depressicollis* **var. n.** *latilobatus* Amazonas; *fortepunctatus* *ab. n. catenatus* Peru p. 300; *lucasi* *ab. n. formosus*; *nitidus* **var. n.** *australis* Amazonas p. 301; *opacipennis* **var. n.** *fornicatus* Argentina; *sericeus* *ab. n. aterrimus* p. 302; *taunayi* **var. n.** *pilosus* p. 303 Brazil; *sexdentatus* Lued. placed in subgen. *Selenocopris* "p. 303 figs., LUEDERWALDT Rev. Ent. S. Paulo 1.—*P. foveolatus* p. 353, *opacipennis* p. 354, *tarsalis* p. 355, **spp. n.** Brazil figs., LUEDERWALDT Rev. Mus. paul. 17.

Pycnopanelus gen. n., *rotundus* sp. n. Madras p. 412 fig., ARROW Fn. Br. Ind. Col. Lamell, pt. 3.

Sisyphus mendicus sp. n. Madras p. 70, ARROW t.c.

Synopsis brahminus Hope (= *batesi* Sharp) p. 82; *gilleti* sp. n. Bengal p. 83 figs., ARROW t.c.

Trichillum key, *hystrix* Argentina p. 609, *ohausi*, *cristatum* p. 610 Ecuador, spp. n., ARROW Ann. Mag. N.H. (10) 8.

APHODIIDAE.

Aphodius pamirensis sp. n. Pamirs p. 55 fig., MEDVEDEV Abh. Pamir Exped. 1928 2 1930.—*A. immundus* new to Sweden p. 194, PALM Ent. Tidskr. 51 1930.—*A. vandykei* sp. n. California p. 101, BARRETT Pan-Pacific Ent. 7.—*A. impressicollis* p. 776, *surdus* p. 785, spp. n. China, BOUCOMONT Lingnan Sci. J. 7.

Trichiorhyssemus expansicollis sp. n. India p. 632 fig., BÉNARD Bull. Mus. Paris (2) 2 (1930).

AEGIALIIDAE.

Revision of N. American Aegialiinae, BROWN Canad. Ent. 63 pp. 9–19, 42–49, 1 pl.

Aegalia keys to subgen. p. 12, spp. pp. 13, 17 (*Leptaegalia* p. 12, *Anomalaegalia* p. 15 subgen. n.), *humeralis* p. 13, *montana* p. 14, *opaca* p. 17, *terminalis* p. 18, *nana* p. 19, *criddlei* p. 42 spp. n.; *conferta* subspp. n. *nigrella*, *punctata* p. 47 N. America, BROWN Canad. Ent. 63.—*A. pusilla* see *Micraegalia*.

Anomalaegalia subgen. n. see *Aegalia*.

Leptaegalia subgen. n. see *Aegalia*.

Micraegalia gen. n. for *Aegalia pusilla* Horn p. 11, BROWN Canad. Ent. 63.

HYBOSORIDAE.

Phaeochrous diversipes sp. n. India p. 5, PIC MÉL. exot.-ent. 52 1928.

OCHODAEIDAE.

Révision of Russian Ochodaeina, SEMENOV-TIAN-SHANSKIÏ & MEDVEDEV Annu. Mus. zool. Acad. Leningrad 31 pp. 393–398.

Ochodaeus zarudnyi sp. n. Bokhara p. 394, SEMENOV-TIAN-SHANSKIÏ & MEDVEDEV Annu. Mus. zool. Acad. Leningrad 31.—*O. xanthomelas* new to China p. 502, HOFFMANN Lingnan Sci. J. 10.

GEOTRUPIDAE.

Bibliographical notes on Junk's Coleopterorum Catalogus Pars. 46, HEPP Ent. Anz. 11 pp. 197–199.

Bolboceras S. American spp. pp. 427–454 figs., LUEDERWALDT Rev. Mus. paul. 17.

Geotrupes pyrenaeus subsp. *splendens* and *heyrovskyi* distinct p. 68, BALTHASAR Acta Soc. ent. Čech., Prague 27 1930.

Typhoeus typhoeus, *fulvopubens* systematic notes p. 431, HEPP Ent. Anz. 11.

TROGIDAE.

Trox mandli p. 128, *ineptus* Transbaikalia, *zoufali* p. 131, *ussuriensis* p. 129, *vimmeri*, *komáreki* p. 130 Ussuri, spp. n., key p. 132, BALTHASAR Ent. Bl. 27.—*T. inclusus*, *costatus* new to China p. 502, HOFFMANN Lingnan Sci. J. 10.

GLAPHYRIDAE.

Amphicoma vulpes ab. n. *elegans* Macedonia p. 24, BALTHASAR Ent. NachrBl. 5.

MELOLONTHIDAE.

Acratus see *Pseudacratus*.

Amphimallus gianfranceschii sp. n. Italy p. 509 figs., LUIGIONI Atti Acc. Nuovi Lincei 84.

Anoxia villosa subsp. n. *lanata* Portugal p. 57, BALTHASAR Wien. ent. Ztg. 48.

Apogonia carlotae sp. n. Philippines p. 310 figs., CHAPIN J. Wash. Acad. Sci. 21.

Caulobius see *Deuterocaulobius*.

Deuterocaulobius n. n. for *Caulobius* LeGuil. nec Dup. p. 126, DALLA TORRE Col. Cat. 47 1912.

Deuterohapalopus n. n. for *Hapalopus* Brenske nec Auss. p. 308, DALLA TORRE Col. Cat. 50 1913.

Dichelonyx deserta California, *columbiana* Br. Columbia spp. n. p. 236, HOPPING Canad. Ent. 63.

Ectinopholia arrowi n. n. for *formosana* Arrow nec Moser p. 287, MIWA Rep. Dept. Agric., Govt. Res. Inst. Taihoku 55.

Elaphocera pardoi sp. n. Spain p. 715, DE LA ESCALERA Bol. Soc. esp. Hist. nat. 31.

Engertia n. n. for *Phila* Brenske nec Mot. p. 181, DALLA TORRE Col. Cat. 49 1912.

Hapalopus see *Deuterothalopus*.

Haplonycha rufocastanea sp. n. N. Australia p. 149, LEA Trans. Roy. Soc. S. Aust. 54 1930.

Holotrichia sexspecula p. 311, *negrosiana*, *stylifer* p. 312, *sorsogona* p. 313, spp. n. Philippines figs., CHAPIN J. Wash. Acad. Sci. 21.

Hoplia farinosa ab. n. *aureoviridis* Salzburg p. 25, BALTHASAR Ent. NachrBl. 5.

Junkia n. n. for *Trichoderma* Nonfried nec Steph. p. 310, DALLA TORRE Col. Cat. 50 1913.

Lachnosterna (*Phyllophaga*) spp. physical ecology pp. 401-422 figs., SWEETMAN Ecology 12.

Leucophilis irrorata use of antennae for determining sexes pp. 759-763 figs., LOPEZ Philipp. J. Sci. 46; biology, antennae fig. pp. 228-242 figs., LOPEZ Ann. Rep. Res. Bur. Philipp. Sugar Ass. 1930-31.

Melolontha melolontha redtenbacheri D.T. (= *albida* Muls. nec Friv.) p. 136, MADER Ent. Anz. 11.

Neostethaspis n. n. for *Stethaspis* Broun nec Burm. p. 89, DALLA TORRE Col. Cat. 47 1912.

Phila see *Engertia*.

Phyllophaga see *Lachnosterna*.

Platydesmus see *Pteroplatydesmus*.

Pseudacratrus n. n. for *Acratus* Horn nec Lac. p. 7, DALLA TORRE Col. Cat. 45 1912.

Pseudosymmachia n. n. for *Symmachia* Brenske nec Hb. p. 224, DALLA TORRE Col. Cat. 49 1912.

Pteroplatydesmus n. n. for *Platydesmus* M'Leay nec Luc. p. 124, DALLA TORRE Col. Cat. 47 1912.

Rhizotrogus vulpecula, *rotrovi* spp. n. N. Africa p. 6, DE PEYERIMHOFF Ann. Soc. ent. Fr. 100.

Stephanopholis lopezi sp. n. Philippines p. 309 figs., CHAPIN J. Wash. Acad. Sci. 21.

Stethaspis see *Neostethaspis*.

Symmachia see *Pseudosymmachia*.

Trichoderma see *Junkia*.

RUTELIDAE.

Notes on the Rutelids of the Belgian Congo, BURGEON Rev. Zool. Bot. afr. 20 pp. (35)-(39).

Catalogue of Rutelinae, OHAUS Col. Cat. 66 1918 pp. 9-207.

Adoretus revision of Philippine spp. p. 305, key p. 308, *lopezi* sp. n. W. Negros p. 306 figs., CHAPIN J. Wash. Acad. Sci. 21.—*A. marshalli* Mashonaland, Tanganyika p. 140, *depilatus* Sudan p. 368, spp. n. figs., OHAUS Ann. Mag. N.H. (10) 8.—*A. geyri* Ohs. (= *surcoufi* Pey.) p. 13, DE PEYERIMHOFF Ann. Soc. ent. Fr. 100.

Anisoplia segetum var. n. *volhynica* Volhynia p. 36, ROUBAL Ent. NachrBl. 5.

Anomala sarasinorum Celebes p. 17, *phimotica* Sumatra p. 18, spp. n. figs., OHAUS Mitt. schweiz. ent. Ges. 15 1930.—*A. aenea* var. n. *versicolor* England p. 239, BAYFORD Ent. Mon. Mag. 67.—*A. pubicollis* food-plants in Japan pp. 411-413 [in Japanese], ARAKAWA Insect Wld. 35.

Bolax buckleyi Ecuador p. 227, *cauranus* Venezuela p. 228, *cupreoviridis* Peru p. 229, spp. n., OHAUS Stett. ent. Z. 92.

Geniates corniger p. 252, *inconstans* p. 253, *relictus* p. 257 Brazil, *isthmicus* Panama p. 254, *vernieri* Colombia p. 255, spp. n. figs., OHAUS t.c.

Leucothyreus cayapó p. 229, *clodius* p. 230, *cominius* p. 232, *flavidus* p. 235, *garbei* p. 237, *limbifer* p. 238, *lucipetens* p. 239, *occipitalis* p. 240, *sabinus* p. 242, *semifuscus*, *spitzi* p. 244, *sulcicollis* p. 246 Brazil, *cruralis* p. 234, *ripicola* p. 241, *subcoriaceus* p. 245, *yuma* p. 247 Amazonas, *gabinius* Bolivia p. 236, *parrulus* Fr. Guiana p. 241, *saparus* Peru p. 243 spp. n.; *costatus* Burm. (= *rugipennis* Bl.) subsp. n. *chaconus* Chaco p. 233 figs., OHAUS t.c.

Labogeniates alvinus p. 248, *catullus* p. 250, *pilicrus* p. 251 Brazil, *apicalis* Fr. Guiana p. 249, *waraputanus* Br. Guiana p. 252, spp. n. figs., OHAUS t.c.

Peltonotus philippinus Laguna, Philippines p. 611, *similis* N. Borneo p. 612, spp. n., ARROW Ann. Mag. N.H. (10) 8.

Plusiotis batesi, *optima* discussed p. 195, FRANZ Senckenbergiana 13.

Popillia japonica phenology p. 40, STICHTER Proc. Penn. Acad. Sci. 5; metabolism pp. 309-323 figs., LUDWIG J. Exp. Zool. 60; effect of temperature on development pp. 358-389 figs., LUDWIG Physiol. Zool. 1 1928; pp. 291-299 figs., 3 1930; p. 44, Anat. Rec. 51 suppl.; resistance to drowning pp. 459-465 figs., EDDY J. Morph. 51.

Trizogeniates laticollis sp. n. Bolivia p. 258, OHAUS Stett. ent. Z. 92.

DYNASTIDAE.

Chalcosoma atlas morphology, biology pp. 1-8 figs., LEEFMANS Korte Meded. Inst. PlZiekt. no. 15.

Diloboderus abderus mating habits pp. 253-256 figs., DAGUERRE Rev. Soc. ent. argent. 3.

Papuna semistriata morphology, biology pp. 11-13 figs., LEEFMANS Korte Meded. Inst. PlZiekt. no. 15.

Scapanes australis morphology, biology pp. 8-10 figs., LEEFMANS t.c.

Trypoxylus tsunobosonis sp. n. Formosa p. 159; *dichotomus* var. n. *septentrionalis* Japan p. 160 figs., Kôno Ins. mats. 5.

CETONIIDAE.

Agestrata orichalcea new to Formosa p. 131, KANO Annot. zool. jap. 13.

Alleucosma n. n. for *Eucosma* Kraatz nec Hb. p. 318, SCHENKLING Col. Cat. 72 1921.

Astraea moseri p. 176, *simillima* p. 177, spp. n. Luzon, BOURGOIN Bull. Soc. ent. Fr. 1931.

Callynomes davidi subsp. n. *nigra* Formosa p. 131, KANO Annot. zool. jap. 13.

Clerota preliminary notes for revision pp. 157-168, *shiva* Bhutan p. 158, *bourgoini* Darjeeling p. 163, *jeanvoinei*

Tonkin p. 165, *dixonii* Annam p. 166 spp. n.; *rigifica* var. n. *rustiventris* Ned. Indies p. 161, LUCASSEN Tijdschr. Ent. 74.

Clinteria klugi new to Formosa p. 132, KANO Annot. zool. jap. 13.—*C. elisabethana* sp. n. Belgian Congo p. 315, BURGEOIN Rev. Zool. Bot. afr. 20.

Daedycorrhina overlaeti sp. n. Belgian Congo p. 105 fig., BURGEOIN t.c.

Dasyvalgus pubicollis sp. n. Tibet p. 4, PIC Mél. exot.-ent. 52 1928.

Diceros dives discussed p. 46, ♀ p. 48, BOURGOIN Bull. Soc. ent. Fr. 1931.

Eucosma see *Alleucosma*.

Heterorrhina leopoldi sp. n. Belgian Congo p. 305, BOURGOIN Rev. Zool. Bot. afr. 20.

Hybothorax see *Lawangia*.

Incala cristatus sp. n. Belgian Congo p. 51, BURGEOIN Rev. Zool. Bot. afr. 21.

Lawangia n. n. for *Hybothorax* Kraatz 1898 nec 1895 p. 264, SCHENKLING Col. Cat. 72 1921.

Macroma javanica new to Formosa p. 131, KANO Annot. zool. jap. 13.

Macronota monaldaoii p. 132, *nigricolor* p. 133 spp. n.; *perraudieri* ab. n. *extensa* Formosa; *nigricollis* new to Formosa p. 134 figs., KANO t.c.

Osmoderma socialis nervous system pp. 651-694 figs., WU Lingnan Sci. J. 7.

Pachnoda uelensis p. 317, *collarti* p. 318 (with var. n. *ituriensis*) spp. n.; *poggei* subsp. n. *bourgoini* p. 320; *tridentata* subsp. n. *leopoldiana* p. 321, *confinis* p. 322, *katangensis* p. 323 Belgian Congo figs., BURGEOIN Rev. Zool. Bot. afr. 20.

Pileotrichus maynei sp. n. Belgian Congo p. 52, BURGEOIN op. cit. 21.

Potosia formosana mouth-parts pp. 8-17 figs., YOSHIDA Trans. N.H. Soc. Formosa 21.—*P. famelica* ab. n. *rambouseki* China p. 24, BALTHASAR Ent. NachrBl. 5.

Rhadinotaena nickerli sp. n. Madagascar p. 55 fig., KNIRSCH Sbornik ent. odd. Nár. Mus. Praze 8 1930.

Smaragdesthes inermis sp. n. Belgian Congo p. 53, BURGEON Rev. Zool. Bot. afr. 21.

Trichius elegans p. 127, *taiheisanus* p. 128, *uraiensis* p. 130, spp. n. Formosa figs., KANO Annot. zool. jap. 13.

Trigonophorinus lemeei Pouill. (= *Trigonophorus riaultii* Fairm.) p. 30, BOURGOIN Bull. Soc. ent. Fr. 1931.

Trigonophorus riaultii see *Trigonophorinus lemeei*.

CURCULIONIDAE.

Catalogue of Archolabinae, Attelabinae (pp. 1-42), Apoderinae (pp. 1-42), DALLA TORRE & VOSS Col. Cat. 110 1930.

Pachyrrhynchinae of Botel I., Formosa with list and map of distribution in the Philippines and adjacent regions, KANO Bull. Biogeogr. Soc. Japan 2 pp. 193-208.

Curculionidae of Samoa, MARSHALL Ins. Samoa 4 fasc. 5 pp. 249-346, 31 figs.

Catalogue of Curculionidae: Eremninae 39 pp.; Leptopinae 83 pp.; Tanyrrhynchinae 10 pp.; Cyllindrorrhinae 23 pp.; Thecesterninae (Suppl.), Rhytirrhinae (Suppl.), Rhyparosominae (Suppl.) 4 pp. 114; Dinomorphinae, Somatodinae 2 pp.; Amycterinae 39 pp.; Gonipterinae 11 pp. 116, SCHENKLING & MARSHALL Col. Cat.

Preliminary list of Curculionidae of S. California, SIMONDS J. Ent. Zool. 23 pp. 61-63.

Biology of various Curculionids of Gironde, TEMPÈRE Proc.-verb. Soc. linn. Bordeaux 82 pp. 73-75.

Key to tribes of Rhynchitinae, VOSS Ent. Bl. 27 p. 162.

Monograph of Bytiscini (contd.), VOSS Koleopt. Rdsch. 16 pp. 209-243, 9 figs.

Abantiades see *Abantiadinus*.

Abantiadinus n. n. for *Abantiades* Broun nec Schaeff. p. 54, SCHENKLING in SCHENKLING & MARSHALL Col. Cat. 106 1929.

Acalles samoanus sp. n. Samoa p. 280, MARSHALL Ins. Samoa 4 fasc. 5.

Acicnemis variegata Fairm. (= *foveicollis* Hell.) p. 271; *biconifera* Fairm. (= *kraatzi* Hub.); *eludens* (with var. n. *signifera* p. 274) sp. n. Samoa p. 272, MARSHALL t.c.

Acrotomopus atropunctellus biology pp. 554-566 figs., JAYNES Ann. Ent. Soc. Amer. 24.

Acythopeus leucomelas Aru I., New Guinea, p. 160, *melas* New Guinea, *insignis* Papua p. 161, *unguiculatus* Malay Penin., *rudis* Java p. 163, spp. n., LEA Proc. Linn. Soc. N.S.W. 66. 5

Aedophronus echinatus sp. n. Transvaal p. 417 fig., MARSHALL Bull. Ent. Res. 22.

Alophus triguttatus var. n. *adspersus* France p. 10, Pic Echange 47.

Amblycnemus gen. n. (Anthonominae) p. 265, *stevensoni* sp. n. Samoa p. 266 fig., MARSHALL Ins. Samoa 4 fasc. 5.

Amorphocerus aureopilosus see *Dynatopechus*.

Ampagia cribrellicollis further description p. 306; *semisuturalis* sp. n. Samoa p. 307, MARSHALL Ins. Samoa 4 fasc. 5.

Anathymus tricolor sp. n. Formosa p. 110, HELLER Wien. ent. Ztg. 48.

Anolethrus gen. n. (Cossonini) p. 475, *gracilis* sp. n. Juan Fernandez I. p. 476 fig., AURIVILLIUS Nat. Hist. Juan Fern. 3 (Zool.).

Aparopion costatum stridulatory organ p. 331 fig., MARCU Zool. Anz. 95.

Aphanocorynes savaiiensis p. 333, *humeralis* p. 334, spp. n. Samoa fig., MARSHALL Ins. Samoa 4 fasc. 5.

Aphyocnemus fasciatus sp. n. Ivory Coast p. 45, HUSTACHE Sbornik ent. odd. Nár. Mus. Praha 9.

Apiomorphilus subgen. n. see *Apiomorphus*.

Apiomorphus (*Apiomorphilus* subgen. n. p. 2), *inermipes* Transvaal, *corvinus* Abyssinia, spp. n. p. 3, VOSS Mitt. deuts. ent. Ges. 2.

Apion trifolii biology p. 27, REGNIER Bull. Soc. Sci. nat. Rouen (7) 64-65 1930.

Apoderus concinnus sp. n. India p. 65, VOSS Sbornik ent. odd. Nár. Mus. Praha 8 1930.

Apries see *Deretiosus*.

Apteronanus gen. n. (Juanorhini), *dendroseridis* (type) (with ab. n. *marginatus*) p. 468, *gunnerae* p. 469, spp. n. Juan Fernandez I. figs., AURIVILLIUS Nat. Hist. Juan Fern. 3 (Zool.).

Asclepiadorrhynchus sinaitus Pic from *Hylobius* p. 122 (note), DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.

Attelabus key to N. American spp. p. 110, notes on certain spp. pp. 107-109, FALL Bull. Brooklyn Ent. Soc. 26.—*A. subcyaneus* sp. n. Transbaikal p. 192, Voss Koleopt. Rdsch. 17.

Aulacobaris gen. n. (Baridiinae), *pictipennis* sp. n. Papua p. 160, LEA Proc. Linn. Soc. N.S.W. 66.

Auletobius cognatus p. 60, *castaneus* p. 61, spp. n. Brazil, Voss Sbornik ent. odd. Nár. Mus. Praha 8 1930.

Bagous brevitarsis new to Sweden p. 197, PALM Ent. Tidskr. 51 1930.—*B. armoricanus* sp. n. France p. 68; *lutosus*, *revelieri* penis fig. p. 70; *enemerythrus* Marsh. (= *dilatatus* Thoms., *tessellatus* Forst., *adpersus* Forst., *convexicollis* Boh.); *tempestivus* Hbst. distinct sp. p. 156, HOFFMANN Bull. Soc. ent. Fr. 1931.

Balanogastriis cinnamomeus sp. n. Fr. Congo p. 53, HUSTACHE Sbornik ent. odd. Nár. Mus. Praha 9.

Barioxyonyx subgen. n. see *Coeliodes*.

Baris scolopacea biology pp. 103-105 fig., STRELTZOV Plant Prot. 7.—*B. gibbicollis* p. 139, *porosterna* p. 140, *trichocnemis* p. 141 Aru I., *punctivaria* p. 140, *atropolita* p. 141, *obscuripes* p. 145, *castaneicornis* p. 146, *tenuipes* p. 147, *vigilans* p. 148, *mesosternalis* p. 149, *laevissima* p. 150, *inuitata*, *stictoptera* p. 151, *liosoma* p. 141, *cordipennis* p. 143, *tenuicornis*, *edentata*, *parvidentipes* p. 144, *antennalis* p. 145, *megaloops*, *punctimedia* p. 146, *convergens*, *semipunctata* p. 148, *simplicipennis*, *biatrovittata* p. 150, *bimaculibasis*, *eurysterna* p. 152 New Guinea, *foveata* Queensland, *monobia* Torres Straits p. 147, *multimaculata* Malay Penin. p. 152, *nemorhina*, *basipennis*, *vitensis* Fiji p. 153, spp. n. figs., LEA Proc. Linn. Soc. N.S.W. 66.

Basedowia gen. n. (nr. *Polyphrades*), *basicollis* sp. n. N. Australia p. 150 fig., LEA Trans. Roy. Soc. S. Aust. 54 1930.

Blepiarda panacis sp. n. Victoria p. 199 figs., OKE Proc. Roy. Soc. Vict. 43.

Blosyrus camerunensis Kamerun, *pilosellus* German W. Africa, spp. n. p. 56, HUSTACHE Sbornik ent. odd. Nár. Mus. Praha 9.

Bothynoderes punctiventris bionomics Moravia 91 pp. figs., ROZSYPAL Bull. Ecole sup. Agron. Brno C16 1930.

Brachycerus terrenus Tanganyika, Nyasaland p. 409, *canus* S.W. Africa p. 410, *vansomereni* Kenya p. 412, *suahilius* p. 413 (with subsp. n. *reductus*) Rhodesia, *deludens* Nyasaland p. 415, *erosicollis* p. 416, *grandicollis* p. 417 Portuguese E. Africa, *lupatus* Tanganyika p. 419, *microderes* Fr. Congo, Kamerun p. 420, *rasicollis* Rhodesia, Nyasaland p. 422, *basidentatus* Kenya, Tanganyika p. 423, spp. n. figs., MARSHALL Ann. Mag. N.H. (10) 7.

Bryochaeta virgulata p. 80, *transversolineata* p. 81, *trigonoccephala* p. 82, spp. n. Kamerun, HUSTACHE Sbornik ent. odd. Nár. Mus. Praha 9.

Byctiscidius key p. 229, *griseus* sp. n. E. Indies p. 231, Voss Koleopt. Rdsch. 16.

Byctiscophilus gen. n. (Byctiscini) p. 231, *championi* sp. n. India p. 232 fig., Voss t.c.

Byctiscus betulae subspp. n. *intermedius* Germany, Finland p. 211, *destitutus* Hungary, Syria p. 212; *populi* ff. n. *transbaicalia* Transbaikalia, *semicuprea* p. 215; *lucidus*, *fulminans* p. 221, *foveostriatus* p. 227 China, *separandus* Formosa p. 226 spp. n.; *lacunipennis* subspp. n. *amurensis* Amur, Korea, *yunnanicus* p. 223, *subtilis* China, *collaris* Formosa p. 224 figs., Voss t.c.

Byrsia binodipennis sp. n. W. Australia p. 386, LEA Rec. S. Aust. Mus. 4.

Calandra punctigera see *Diocalandra frumentii*.

Calendra, key to known pupae p. 159, descriptions pp. 147-158, food-plant list p. 163 figs., SATTERTHWAITE Ann. Ent. Soc. Amer. 24.

Camarotus maculatus sp. n. Brazil p. 65, Voss Sbornik ent. odd. Nár. Mus. Praha 8 1930.

Carcilia mesosternalis sp. n. Formosa p. 99, HELLER Wien. ent. Ztg. 48.

Catalalus latiscapus sp. n. E. Africa p. 66, HUSTACHE Sbornik ent. odd. Nár. Mus. Praze 9.

Cathormiocerus churchillei Desbr. distinct from *horrens* Gyll. p. 155 fig., HOFFMANN Bull. Soc. ent. Fr. 1931.—*C. aurasiacus* sp. n. N. Africa p. 287, DE PEYERIMHOFF Bull. Soc. ent. Fr. 1931.

Catoptes instabilis (with var. n. *vittiger*), *fraudator* p. 419, *postrectus* p. 420, spp. n. New Zealand, MARSHALL Bull. Ent. Res. 22.

Caulophilus nigrirostris sp. n. Juan Fernandez I. p. 475 fig., AURIVILLIUS Nat. Hist. Juan Fern. 3 (Zool.).

Cercidocerus erubescens sp. n. Formosa p. 111, HELLER Wien. ent. Ztg. 48.

Ceuthorrhynchus angustifauces Desbr. status; *kraatzi* Bris. possibly synonym of *devillei* Hust.; *sainte-clairei* discussed p. 157, HOFFMANN Bull. Soc. ent. Fr. 1931.—*C. theryi* sp. n. Algeria p. 5, DE PEYERIMHOFF Ann. Soc. ent. Fr. 100.—*C. letourneuxi* subsp. n. *demaïsoni* Sahara p. 128 (note), DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.—*C. opertus* p. 119, *carteri*, *handfordi* p. 120, *dubitans* p. 121, spp. n. Canada, BROWN Canad. Ent. 63.

Chaectetorus tutuilae sp. n. Samoa p. 296 fig., MARSHALL Ins. Samoa 4 fasc. 5.

Chirozetes alboguttatus p. 106 (*Mesochirozetes* subgen. n. p. 107), *formosanus* p. 108, spp. n. Formosa, HELLER Wien. ent. Ztg. 48.

Chlorophanus rufipes sp. n. China p. 36, Voss Ent. Bl. 27.

Cleonus insignis subsp. n. *amenokal* Hoggar p. 119, DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.

Coeliodes distinguished from *Oxyonyx* p. 248, subgen. n. *Perioxyonyx* (type *splendidus* Bris.), *Paroxyonyx* (type *cinctus* Chev.) p. 249, *Barioxyonyx* (type *tournieri* Tourn.) p. 250; *sicardi* sp. n. France p. 251, HUSTACHE Bull. Soc. ent. Fr. 1931.

Coenorrhinus subviridans Brazil, *decumanus* Natal, spp. n. p. 62, Voss Sbornik ent. odd. Nár. Mus. Praze 8 1930.

Conradiella gen. n. (Menemachina), *bella* (type) Kamerun, Assinie p. 46, *elegantula* Fr. Congo p. 47, spp. n., HUSTACHE Sbornik ent. odd. Nár. Mus. Praze 9.

Copturus leucoventris p. 524, *semirufus* p. 525, spp. n. Brazil, HUSTACHE Ann. Mag. N.H. (10) 8.—*C. nigritarsis* sp. n. Brazil p. 9, HUSTACHE Sbornik ent. odd. Nár. Mus. Praze 9.

Coryssopus pictus Congo or Dahomey p. 15, *semipubescens* p. 19, *rufirostris* Kamerun, *canaliculatus* p. 16, *crassipes* Belgian Congo, *fulvescens* p. 18 (also Kamerun), *vinaceus* Gabon p. 19, spp. n., HUSTACHE t.c.

Cosmopolites sordidus bibliography pp. 147–176, LEONARD J. Dept. Agric. Porto Rico 15 pp. 147–176.

Cossonus ficus sp. n. Madras p. 275 fig., MARSHALL Ind. For. Rec. 16.—*C. platyrrhinus* p. 336, *quaerens* p. 338 (with subsp. n. *afonus* p. 339), spp. n. Samoa, MARSHALL Ins. Samoa 4 fasc. 5.

Cranopoeus gen. n. (Ithyporinae) p. 274, *turritus* sp. n. Samoa p. 275 figs., MARSHALL t.c.—*C. muiri* p. 447, *galeatus* p. 449, *veitchi* p. 450, *setiger* p. 451 Fiji, *marquesanus* Marquesas Is. p. 453, spp. n. figs., MARSHALL Ann. Mag. N.H. (10) 8.

Cyamobolus atomosparsus see *Mecistocerus*.

Cynotrachelus ussuriensis sp. n. Ussuri p. 194, Voss Koleopt. Rdsch. 17.

Cyllophorus bicolor Abyssinia p. 11, *hieroglyphicus* Zambesi, *mesmini* p. 12, *humilis* Zanzibar, *camerunensis* Kamerun p. 13, *bimaculatus* Gabon p. 14, spp. n., HUSTACHE Sbornik ent. odd. Nár. Mus. Praze 9.

Cyphometopus masafuerae sp. n. Juan Fernandez I. p. 464, AURIVILLIUS Nat. Hist. Juan Fern. 3 (Zool.).

Cyrtotrachelus rufopectinipes f. n. *subnotata* China p. 37, Voss Ent. Bl. 27.

Daylesfordia gen. n. (Rhyparosominae), *uvida* sp. n. Victoria p. 195 figs., OKE Proc. Roy. Soc. Vict. 43.

Decophthalmus venustus sp. n. Kamerun p. 75, HUSTACHE Sbornik ent. odd. Nár. Mus. Praze 9.

Degis coxalis p. 170, *imitator*, *residuus* p. 171 New Guinea, spp. n. figs., LEA Proc. Linn. Soc. N.S.W. 66.

Deporaus betulae use of hind legs as weapons by males pp. 241-243, SCOTT Ent. Mon. Mag. 67.

Deretiodes gen. n. (Cryptorrhynchinae), *swezeyi* sp. n. Samoa p. 292 fig., MARSHALL Ins. Samoa 4 fasc. 5.

Deretiosus scutiger p. 287, *gibber* p. 289, *wilderi* p. 290, spp. n. Samoa fig., MARSHALL t.c.—*D. (= Apries)* p. 395, *amblipennis* p. 387, *latus*, *carinirostris* p. 388, *collaris* p. 389, *squamipennis*, *pustulosus* p. 390, *lateripennis* p. 391, *parvus* New Guinea, *fasciculiceps* Fiji p. 392, *alphabeticus* p. 393, *ziczac*, *sacntus* p. 394 Australia spp. n.; *eremitus* Pasc. from *Apries* p. 395, LEA Rec. S. Aust. Mus. 4.

Diaphna nociva sp. n. Cape Province p. 420 figs., MARSHALL Bull. Ent. Res. 22.

Diathetes buxtoni p. 316, *lyriger* p. 318, spp. n. fig., MARSHALL Ins. Samoa 4 fasc. 5.

Dicasticus nodulosus sp. n. Uganda p. 82, HUSTACHE Sbornik ent. odd. Nár. Mus. Prazе 9.

Diethusa incisipes, *truncatidens* p. 383, *nigriclava* p. 384 spp. n.; *metasternalis* var. n. *borealis* p. 385 Australia, LEA Rec. S. Aust. Mus. 4.—*D. setosa* p. 198, *venusta* p. 199, spp. n. Victoria, OKE Proc. Roy. Soc. Vict. 43.

Diocalandra frumenti F. (= *Calandra punctigera* Pasc.) new to Pacific Is. p. 321, MARSHALL Ins. Samoa 4 fasc. 5.

Dixoncis gen. n. (Aterpinae), *pictus* sp. n. Australia, Tasmania p. 196 fig., OKE Proc. Roy. Soc. Vict. 43.

Dorytomus globipennis sp. n. Rumania p. 184, ROUBAL Ent. Bl. 27.

Dryophthoroides parvungulis sp. n. Bengal p. 270 fig., MARSHALL Ind. For. Rec. 16.

Dryophthorus muscosus p. 321, *armatocollis* p. 322, spp. n. Samoa figs., MARSHALL Ins. Samoa 4 fasc. 5.

Dynatopechus gen. n. (Cossoninae) p. 325, *rubronotatus* (type) sp. n. Samoa p. 326; *aureopilosus* Fairm. from *Amorphocerus* p. 325 fig., MARSHALL Ins. Samoa 4 fasc. 5.

Ecrizothis similis p. 177, *blackburni* p. 178, *terminalis* p. 179, spp. n. Victoria figs., OKE Proc. Roy. Soc. Vict. 43.

Ectatopsides impressicollis Dar-es-Salaam, *carinirostris* p. 61, *ruficollis* p. 63 E. Africa, *transversicollis* Zambesi p. 62, spp. n., HUSTACHE Sbornik ent. odd. Nár. Mus. Prazе 9.

Ellatocerus senegalensis sp. n. Senegal p. 55, HUSTACHE t.c.

Elytrurus bicolor Mshl. (= *bivittatus* Mshl.) p. 260, MARSHALL Ins. Samoa 4 fasc. 5.

Eremonyx gen. n. (Baridinae) p. 308, *samoanus* (type) p. 309, *rufoplagiatus* p. 310, spp. n., MARSHALL t.c.

Eremotes sikkimensis sp. n. India p. 277, MARSHALL Ind. For. Rec. 16.

Eulechriops carinicollis sp. n. Brazil p. 10, HUSTACHE Sbornik ent. odd. Nár. Mus. Prazе 9.

Euops gardneri sp. n. Bengal p. 263, MARSHALL Ind. For. Rec. 16.

Euthicus excisus sp. n. Formosa p. 100 fig., HELLER Wien. ent. Ztg. 48.

Eutinopus irrisus see *Leptomias*; *peregrinus* see *Piazomias*.

Eutornus anamalainus sp. n. Madras p. 276 fig., MARSHALL Ind. For. Rec. 16.

Faustiella variegata E. Africa p. 20, *delicatula* Kamerun p. 21, spp. n., HUSTACHE Sbornik ent. odd. Nár. Mus. Prazе 9.

Fergusonia distinguished from *Crano-poeus* p. 447, MARSHALL Ann. Mag. N.H. (10) 8.

Fleurops gen. n. (Brachyderinae), *cinereus* sp. n. Belgian Congo p. 60, HUSTACHE Sbornik ent. odd. Nár. Mus. Prazе 9.

Geranorrhinus certator, *aphyllae* spp. n. Sahara p. 124 figs., DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.

Gitonischius gen. n. (Cossoninae) p. 327, *tubicollis* sp. n. Samoa p. 328 fig., MARSHALL Ins. Samoa 4 fasc. 5.

Gonipterus gibberus, *scutellatus* distinguishing characters pp. 257-269, MARELLI Rev. Mus. La Plata 30 1927; also Mem. Jardin zool. La Plata 2 1930 pp. 60-72.

Gronosphilia gen. n. (Zygopinae) p. 28, *conradti* sp. n. Kamerun p. 29, HUSTACHE Sbornik ent. odd. Nár. Mus. Prazе 9.

Gymnetron cellinum, *linariae* pupae pp. 105-106, URBAN Ent. Bl. 27.

Gymnobaris lateralis sp. n. Key I. p. 159, LEA Proc. Linn. Soc. N.S.W. 66.

Gyponychus quinquemaculatus p. 63, *sculpturatus* p. 65, *socius* spp. n.; *porosus* var. n. *nigripes* p. 64 E. Africa, HUSTACHE Sbornik ent. odd. Nár. Mus. Praha 9.

Halliella see *Halliellara*.

Halliellara n. n. for *Halliella* Broun nec Ulr. p. 52, SCHENKLING in SCHENKLING & MARSHALL Col. Cat. 106 1929.

Hesychobius gen. n. (Eirirrhinae) p. 263, *nebulosus* sp. n. Samoa p. 264 fig., MARSHALL Ins. Samoa 4 fasc. 5.

Heterostylus margaritifer p. 75, *apicalis*, *cretaceus* p. 76 Belgian Congo, *lineolatus* E. Africa p. 77, *funicularis* Kamerun p. 78, spp. n., HUSTACHE Sbornik ent. odd. Nár. Mus. Praha 9.

Heurippa x-album sp. n. Formosa p. 109 fig., HELLER Wien. ent. Ztg. 48.

Hylobius sinaitus see *Asclepiadorrhynchus*.

Hypera subvittata see *Phytonomus striatus*.

Iphisomus ovalipennis sp. n. E. Africa p. 65, HUSTACHE Sbornik ent. odd. Nár. Mus. Praha 9.

Ipsichora longipes p. 166, *carinicollis* New Guinea, *tibialis* p. 167, *piliventris* p. 168 Papua, spp. n. figs., LEA Proc. Linn. Soc. N.S.W. 66.

Isaniris spinithorax E. Africa p. 67, *seydeli* p. 68, *hamaticollis* p. 69 Belgian Congo, spp. n., HUSTACHE Sbornik ent. odd. Nár. Mus. Praha 9.

Isocopturus gen. n. (Zygopinae), *trilineatus* Kamerun p. 23, HUSTACHE t.c.

Juanobia gen. n. (Juanorhini), *ruficeps* sp. n. Juan Fernandez I. p. 467 figs., AURIVILLIUS Nat. Hist. Juan Fern. 3 (Zool.).

Juanorhinus gen. n. (Juanorhini) p. 466, *robinsoni* sp. n. Juan Fernandez I. p. 467 figs., AURIVILLIUS t.c.

Lalagetes leurops sp. n. Cape Province p. 418 fig., MARSHALL Bull. Ent. Res. 22.

Lechriops fallaciosus sp. n. Brazil p. 527, HUSTACHE Ann. Mag. N.H. (10) 8.

Leptolepyrus meridionalis Duv. (= *olivieri* Desbr., *Rhinognathus globulatus* Fairm.) p. 154; *leptolepyroides* Desbr. distinct sp. p. 155 figs., HOFFMANN Bull. Soc. ent. Fr. 1931.

Leptomias irrisus Fst. from *Eutinopus* p. 124, ZUMPT Coleopt. Centralbl. 5.

Leptops nothus sp. n. Victoria p. 180 fig., OKE Proc. Roy. Soc. Vict. 43.

Listrobyctiscus key p. 233, *montanus* p. 235, *insularis* p. 236, *mindoroensis* p. 237, *mindanaoensis* p. 238 Philippines, *tombuquensis* Celebes p. 237, *malaccanus* Malacca p. 239, spp. n. figs., Voss Koleopt. Rdsch. 16.

Lixus spartii var. n. *uniformis* Morocco p. 25, HUSTACHE Bull. Soc. Sci. nat. Maroc 11.

Lobotrachelus key p. 37, *seriatus* p. 39, *tschelaensis* p. 41, *congoanus* p. 42 Belgian Congo, *regularis* p. 39, *nigricornis* p. 40, *senegalensis* p. 43, *meloui* p. 44, *perpusillus* p. 45 Senegal, *brunneipennis* p. 40, *conradti* p. 41 Kamerun, *t-album* Gabun p. 42, *diversesquamulatus* Leshumo p. 44, spp. n., HUSTACHE Sbornik ent. odd. Nár. Mus. Praha 9.

Macrolechriops crassipes sp. n. Brazil p. 526, HUSTACHE Ann. Mag. N.H. (10) 8.

Magdalis armigera hatching from egg p. 595, ROBERTS Ann. Mag. N.H. (10) 8.

Mandalotina gen. n. (Leptopinae), *atranotata* (type) p. 190, *varia*, *bicolor* p. 191, spp. n. Victoria figs., OKE Proc. Roy. Soc. Vict. 43.

Mandalotus pentagonoderes further description p. 182; *leai* p. 184, *impressicollis* p. 185, *bryophilus*, *graminicola* p. 186, *explanicollis* p. 187, *octagonalis* p. 188, *minusculeus* p. 189, *egenus* p. 190, spp. n. Victoria figs., OKE Proc. Roy. Soc. Vict. 43.

Mecistocerus thauanus sp. n. Formosa p. 104, HELLER Wien. ent. Ztg. 48.—*M. granibasis*, *sordidus* p. 396, *maculibasis* p. 397, *bivittipennis* New Guinea, *triangulifer* p. 398, *fimbratarsis* p. 400, *dentivarius* p. 401 Australia, *tibialis* Buru p. 399, *ursus* p. 402, *uniformis*, *parvicollis* p. 403, *maculosus* p. 404, *atronitidis* p. 405 Papua spp. n.; *atomosparus* Fairm. (= *languidus* Lea) from *Cyamobolus* p. 406, LEA Rec. S. Aust. Mus. 4.

Mecopoidellus gen. n. (Zygopinae)
p. 26, *monostigma* sp. n. Belgian Congo
p. 27, HUSTACHE Sbornik ent. odd.
Nár. Mus. Praze 9.

Melanterius papuensis Papua p. 377,
curvirostris New Holland p. 378,
villosipes, *setistriatus* p. 379, *atronitens*
p. 380 Australia spp. n.; *impolitus*
further description p. 382, LEA Rec. S.
Aust. Mus. 4.

Menemachus viduatus Belgian Congo,
decoratus Gabun p. 48, *signatellus* Fr.
Congo p. 49, *nigricornis* Belgian Congo,
vulgaris, Ivory Coast, Belgian Congo
p. 50, spp. n., HUSTACHE Sbornik ent.
odd. Nár. Mus. Praze 9.

Meneudetus orientalis Zanzibar p. 51,
angulicollis, *trianguliferus* Kamerun
p. 52, *tessellatus* Fr. and Belgian Congo
p. 53, spp. n., HUSTACHE t.c.

Mesochirozetes subgen. n. see *Chiro-*
zetes.

Metanthia regularis Aru I., *granulipes*
p. 164, *gagatina*, *apina*, *scutellaris* New
Guinea p. 165, spp. n. figs., LEA Proc.
Linn. Soc. N.S.W. 66.

Meteutinopus subgen. n. see *Xylino-*
phorus.

Metialma nigricornis sp. n. Belgian
Congo p. 31, HUSTACHE Sbornik ent.
odd. Nár. Mus. Praze 9.

Microcryptorrhynchus orbiculus p. 454,
collenettei, *planiceps* p. 456, spp. n.
Marquesas Is., MARSHALL Ann. Mag.
N.H. (10) 8.—*M. analis* p. 282, *subscu-*
tellatus p. 283, *glomus* p. 284, spp. n.
Samoa figs., MARSHALL Ins. Samoa 4
fasc. 5.

Microtribus longiceps sp. n. Samoa
p. 330 fig., MARSHALL t.c.

Mimaulus sulcatifrons sp. n. Transvaal
p. 417 fig., MARSHALL Bull. Ent. Res. 22.

Myctides filirostris sp. n. New Guinea
p. 163 fig., LEA Proc. Linn. Soc. N.S.W.
66.

Mystorrhinus gen. n. (Cossoninae)
p. 340, *dimorphus* sp. n. Samoa p. 341
figs., MARSHALL Ins. Samoa 4 fasc. 5.

Nanophyes basilineatus sp. n. Formosa
p. 101, HELLER Wien. ent. Ztg. 48.

Nemonyx revision of Palaearctic spp.
pp. 164–167, Voss Ent. Bl. 27.

Neosystates sculpturatus sp. n. E.
Africa p. 74, HUSTACHE Sbornik ent.
odd. Nár. Mus. Praze 9.

Neoxyonyx ~~gen. n.~~ p. 226
Nesendaeus gen. n. (Tychiinae), *seto-*
lineatus sp. n. Samoa p. 270 fig.,
MARSHALL Ins. Samoa 4 fasc. 5.

Nesobaris gen. n. (Baridinae), *tutuila*
(type) p. 313, *parvungulis* p. 315, spp. n.
Samoa figs., MARSHALL t.c.

Niphades alni sp. n. Bengal p. 264
fig., MARSHALL Ind. For. Rec. 16.

Nodierella gen. n. (Brachyderinae)
p. 57, *senegalensis* sp. n. Senegal p. 58,
HUSTACHE Sbornik ent. odd. Nár. Mus.
Praze 9.

Nodocnemus gen. n. (Eirirrhinae)
p. 260, *subfasciatus* sp. n. Samoa p. 261
fig., MARSHALL Ins. Samoa 4 fasc. 5.

Notiosomus cervicalis sp. n. Samoa
p. 335, MARSHALL t.c.

Nyella gen. n. (? Trypetini), *tuber-*
culata sp. n. Victoria p. 200 figs., OKE
Proc. Roy. Soc. Vict. 43.

Ochronanus pumilus sp. n. Samoa
p. 344, MARSHALL Ins. Samoa 4 fasc. 5.

Odoacis calophylli sp. n. Madras p. 269
MARSHALL Ind. For. Rec. 16.

Omius krajniki sp. n. Czechoslovakia
p. 3, ROUBAL Ent. Bl. 27.

Omobaris lucens sp. n. Samoa p. 310
fig., MARSHALL Ins. Samoa 4 fasc. 5.

Oodemus striatipenne sp. n. Hawaii
p. 513, PERKINS Proc. Hawaii. Ent. Soc.
1929–30 7.

Opseotrophus impressicollis sp. n.
Ivory Coast p. 80, HUSTACHE Sbornik
ent. odd. Nár. Mus. Praze 9.

Orochlesis antepagiata sp. n. Formosa
p. 104, HELLER Wien. ent. Ztg. 48.

Orthosinus subulirostris sp. n. Bengal
p. 271 fig., MARSHALL Ind. For. Rec. 16.

Osphilia tristigma p. 31, *fallaciosa*
p. 32, spp. n. Fr. Congo, HUSTACHE
Sbornik ent. odd. Nár. Mus. Praze 9.

Osphiliades longirostris Belgian Congo
p. 29, *scapularis* Kamerun p. 30, spp. n.,
HUSTACHE t.c.

Otidognathus maculipennis sp. n.
China p. 38, Voss Ent. Bl. 27.

Otiorrhynchus Reitter's 4th and 5th groups discussed, *claripes* Bonsd. (nec Peyr. nec Boh.) r. n. *eversti* France pp. 292; *sanguinipes* var. *stierlini* n. n. for *fagi* Stierlin nec Boh. p. 295, UYTEN-BOOGAART Tijdschr. Ent. 74.—*O. hickeri* p. 117, *roubali* p. 120, spp. n. Carpathians, PENECKE Coleopt. Centralbl., Berlin 5.—*O. rugosostriatus* ethology pp. 179–182 figs., HARDOUIN Bull. Soc. ent. Fr. 1931; larva pp. 183–184, HOFFMANN Bull. Soc. ent. Fr. 1931.—*O. dolabratus* Peyer. a race of *atlasicus* Esc.; *pici* Sol. (= *bedeli* Peyer.) p. 11 (note), de PEYERIMHOFF Ann. Soc. ent. Fr. 100.—*O. subdentatus* Bach (= *pupillatus* auct. nec Gyllenhal); *frigidus* Muls. (= *subdentatus* Stierlin, Reitter, Penecke) p. 188, HUBENTHAL Ent. Bl., Berlin 27.

Otiniychus gen. n. (Brachyderinae), *buxtoni* (type) p. 253, *hopkinsi* p. 256, spp. n. Samoa figs., MARSHALL Ins. Samoa 4 fasc. 5.

Oxydema simplex sp. n. Samoa p. 332, MARSHALL t.c.

Oxyonyx discussed and distinguished from *Coeliodes* pp. 246–248, HUSTACHE Bull. Soc. ent. Fr. 1931.—*O. messagetis* Kirsch (= *Reoxyonyx monticola* Desbr.) p. 156, HOFFMANN Bull. Soc. ent. Fr. 1931.

Pachyrrhynchus yamianus, *tobafolius* p. 237, *insularis* p. 238, spp. n. Formosa figs., KANO Kontyû 3 1929 [not seen].

Pachystylus nitidus sp. n. Juan Fernandez I. p. 474 figs., AURIVILLIUS Nat. Hist. Juan Fern. 3 (Zool.).

Pachytychius avulsus, morphology, biology pp. 175–186 figs., PAGLIANO & SÉGUÉLA Ann. Serv. bot. Tunisie 6 1930.

Parempleurus gen. n. (Cryptorrhynchini) p. 101, *dentirostris* sp. n. Formosa p. 102, HELLER Wien. ent. Ztg. 48.

Paromias gen. n. (Tanymericini), *sulphurifer* sp. n. China p. 35, VOSS Ent. Bl. 27.

Paroxyonyx subgen. n. see *Coeliodes*.

Peleropsella gen. n. (Zygopinae), *zanzibarica* Zanzibar sp. n. p. 22, HUSTACHE Sbornik ent. odd. Nár. Mus. Praha 9.

Pentarthrum hirticolle, *naucum* spp. n. Samoa p. 324, MARSHALL Ins. Samoa 4 fasc. 5.—*P. rufoclavatum* Juan Fernandez I. p. 473, *paschale* Easter I. p. 476, spp. n. figs., AURIVILLIUS Nat. Hist. Juan Fern. 2 (Zool.).

Perigaster revision p. 320, *longirostris* sp. n. Ottawa p. 323 fig., BUCHANAN J. Wash. Acad. Sci. 21.

Perioxyonyx subgen. n. see *Coeliodes*.

Phacemastix erythreensis Eritrea p. 33, *nodieri* Lower Congo p. 34, spp. n., HUSTACHE Sbornik ent. odd. Nár. Mus. Praha 9.

Phanerostethus gen. n. (Cryptorrhynchinae) p. 285, *dilophus* sp. n. Samoa p. 286 fig., MARSHALL Ins. Samoa 4 fasc. 5.

Phloeophagosoma carinirostre sp. n. Samoa p. 331 fig., MARSHALL t.c.

Phrynixus further description, *victoriae* p. 192, *syllvicola* p. 193, *major* p. 194, spp. n. Victoria figs., OKE Proc. Roy. Soc. Vict. 43.

Phyllobius spp. hatching from egg p. 593, ROBERTS Ann. Mag. N.H. (10) 8.—*P.* notes on Palaearctic spp. pp. 82–90, *peneckeii* sp. n. Dalmatia p. 82; *etruscus* r. n. *pseudoetruscus* Herzegovina p. 86, SOLARI Boll. Soc. ent. ital. 63.

Phyllodytes see *Phyllodytesius*.

Phyllodytesius n. n. for *Phyllodytes* Broun nec Wagl. p. 57, SCHENKLING in SCHENKLING & MARSHALL Col. Cat. 106 1929.

Phytonomus striatus Boh. (= *Hypera subvittata* Cap.) p. 3, PIC Echange 47.

Piazomias peregrinus Fst. from *Eutimonopus* p. 124, ZUMPT Coleopt. Centralbl. 5.

Pissodes key p. 80 fig., LAIDLAW Scot. Nat. no. 189.—*P. nemorensis* Germ. (= *deodarae* Hopk.) biology pp. 872–874, DIETRICH J. Econ. Ent. 24.

Platynanus gen. n. (Juanorhini) p. 469, key, *baeckstroemi* (type) p. 470, *skottsbergi*, *sericatus* p. 471, *quadratifer*, *arenarius*, *hirsutissimus* p. 472, spp. n. Juan Fernandez I. figs., AURIVILLIUS Nat. Hist. Juan Fern. 3 (Zool.).

Platyomicus funicularis Kamerun, *annulicornis* Belgian Congo, spp. n. p. 79, HUSTACHE Sbornik ent. odd. Nár. Mus. Praha 9.

Polydrusus impressifrons morphology, biology 24 pp. figs., PARROTT & GLASGOW Tech. Bull. N.Y. Agric. Expt. Sta. 56 1916.

Polyphrades farinosus p. 151, *gibbipennis* p. 152, spp. n. N. Australia, LEA Trans. Roy. Soc. S. Aust. 54 1930.—*P. viridis* sp. n. Victoria p. 179, OKE Proc. Roy. Soc. Vict. 43.

Prodiocetes formosanus sp. n. Formosa p. 110, HELLER Wien. ent. Ztg. 43.

Proöces praeustum sp. n. Samoa p. 339, MARSHALL Ins. Samoa 4 fasc. 5.

Proictes curvipes sp. n. W. African Coast p. 57, HUSTACHE Sbornik ent. odd. Nár. Mus. Praha 9.

Prosalix rufus supposed larva pp. 451–455 figs., OGLOBLIN Bol. Minist. Agric. Argentina 29 1930.

Pseudauletes nitens sp. n. Brazil p. 61, Voss Sbornik ent. odd. Nár. Mus. Praha 8 1930.

Pseudocholus fimbritarsis sp. n. Papua p. 168 fig., LEA Proc. Linn. Soc. N.S.W. 66.

Pseudocleonus theryi sp. n. Morocco p. 24, HUSTACHE Bull. Soc. Sci. nat. Maroc 11.—*P. cinereus* biology p. 44, TEMPÈRE Proc.-verb. Soc. linn. Bordeaux 82.

Pseudohadronotus gen. n. (Tanymericini), *hauseri* sp. n. China p. 37, Voss Ent. Bl. 27.

Psydestis pictipennis sp. n. Queensland p. 385, LEA Rec. S. Aust. Mus. 4.

Pxyonyx monticola see *Oxyonyx messagetus*.

Rhabdoenemis obscura Boisd. (= *Sphenophorus promissus* Pasc.) p. 320, MARSHALL Ins. Samoa 4 fasc. 5.

Rhadinocerus albus Belgian Congo p. 34, *angolensis* p. 35, *fulvomaculatus* p. 36 Angola, spp. n., HUSTACHE Sbornik ent. odd. Nár. Mus. Praha 9.

Rhadinocopes gen. n. (Brachyderinae) p. 58, *orientalis* (type) E. Africa, *curvipes* W. African Coast spp. n. p. 59, HUSTACHE Sbornik ent. odd. Nár. Mus. Praha 9.

Rhadinomerus elaeocarpi p. 265, *levifrons* p. 267, *seticolis* p. 268, spp. n. Bengal figs., MARSHALL Ind. For. Rec. 16.

Rhinastus pertusus stridulatory organ p. 332 fig., MARCU Zool. Anz. 95.

Rhinognathus globulatus see *Leptolepyrus meridionalis*.

Rhinoncus australis sp. n. Victoria p. 198, OKE Proc. Roy. Soc. Vict. 43.

Rhodobaenus tredecimpunctatus possible influence of food-plant of larva on determination of colour pattern in adult p. 226 fig., MOHR Trans. Illinois Acad. Sci. 24.

Rhynchaenus samoanus sp. n. Samoa p. 269, MARSHALL Ins. Samoa 4 fasc. 5.

Rhynchites mandli sp. n. Ussuri p. 192, Voss Koleopt. Rdsch. 17.—*R. sericeus*, *aeneovirens* ovipositing in leaf-roll of *Attelabus curculionoides* p. 102 figs., ZAVADSKY Zool. Anz. 93.

Rhyncoloma subsignatum sp. n. Samoa p. 342 fig., MARSHALL Ins. Samoa 4 fasc. 5.

Rhyncolus samoanus Mshl. from *Temnorhamphus*; *fuscicollis* sp. n. Samoa p. 346, MARSHALL t.c.

Sclerolips horridus sp. n. Formosa p. 105, HELLER Wien. ent. Ztg. 48.

Sibinia paronychia sp. n. France p. 51 fig., HOFFMANN Bull. Soc. ent. Fr. 1931.

Siderodactylus obsti sp. n. E. Africa p. 66, HUSTACHE Sbornik ent. odd. Nár. Mus. Praha 9.

Sitona regensteiniensis new to Sweden p. 197, PALM Ent. Tidskr. 51 1930.—*S. lineata* morphology, bionomics 88 pp. figs., ANDERSEN Monog. Pflanzenschutz no. 6.

Solenobaris denticulata Aru I., *insignirostris* p. 155, *hamata* p. 156, *casuarinae* p. 158, *orthorrhina* p. 156, *inermis* p. 157, *minor* p. 158 New Guinea, *parvipunctata*, *cryptodon* Queensland p. 157, *spathulirostris*, *nitidiventris* Fiji p. 159, spp. n., LEA Proc. Linn. Soc. N.S.W. 66.

Spanochelus gen. n. (Ithyporinae) *planirostris* sp. n. Samoa p. 278 fig. MARSHALL Ins. Samoa 4 fasc. 5.

Sphaerorrhinus mutans sp. n. Samoa p. 257, MARSHALL t.c.

Sphenophorus promissus see *Rhabdoenemis obscura*.

Stenotrupis myristicae sp. n. Samoa p. 329, MARSHALL Ins. Samoa 4 fasc. 5.

Stomodes gyroscollis distribution in France pp. 25–27, HARDOUIN Misc. ent. 33.

Strongylopterus nitidirostris sp. n.
Juan Fernandez I. p. 165, AURIVILLIUS
Nat. Hist. Juan Fern. 3 (Zool.).

Subxylinophorus subgen. n. see
Xylinophorus.

Surchania gen. n. (Cleoninae), *sijazovi*
sp. n. Bukhara p. 340, LEBEDEV Ent.
Anz., Vienna 11.

Sympiezopellus gen. n. (Zygopinae),
cruz sp. n. Fr. Congo p. 21, HUSTACHE
Sbornik ent. odd. Nár. Mus. Praze 9.

Systates suturalis p. 69, *katonaensis*
p. 72, *marmoratus* E. Africa, *dimorphus*
Abyssinia p. 70, *hacquardi* Zanguebar
p. 71, *weisei* Usambara p. 72, spp. n.,
HUSTACHE t.c.

Tanymecus misellus sp. n. Formosa
p. 97, HELLER Wien. ent. Ztg. 48.

Teleodactylus gen. n. (Cryptorrhyn-
chinae) p. 294, *roscidus* sp. n. Samoa p.
295, MARSHALL Ins. Samoa 4 fasc. 5.

Telephae dispersa Dahomey p. 54,
biaculata Kamerun p. 55, spp. n.,
HUSTACHE Sbornik ent. odd. Nár. Mus.
Praze 9.

Temnorhamphus samoanus see *Rhyn-*
colus.

Tentegia amplipennis, *quinesinuata*
spp. n. Australia p. 153, LEA Trans.
Roy. Soc. S. Aust. 54 1930.

Tetragonopsella gen. n. (Zygopinae)
p. 25, *occidentalis* sp. n. Fr. Congo p. 26,
HUSTACHE Sbornik ent. odd. Nár. Mus.
Praze 9.

Theanellus plumipilis sp. n. Syria p.
79, HUSTACHE Bull. Soc. ent. Fr. 1931.

Therebus orthocnemis sp. n. Formosa
p. 103, HELLER Wien. ent. Ztg. 48.

Thylacites lizensis Pey. (= *cneor-*
rhynoides Escal.) p. 12, DE PEYERIMHOFF
Ann. Soc. ent. Fr. 100.

Tomapoderus flavus sp. n. Fr. Congo
p. 64, Voss Sbornik ent. odd. Nár. Mus.
Praze 8 1930.

Trachyodes marshalli sp. n. Formosa
p. 98, HELLER Wien. ent. Ztg. 48.

Trachyphloeus rambouseki p. 119,
skopljensis p. 120, spp. n. Jugoslavia,
PURKYNE Acta Soc. ent. Čech. 27 1930.

Trigonopterus crinipes p. 298, *cae-*
sipes p. 301, *serratipes* p. 304, *bryani* p.
305 spp. n.; *submetallicus* subsp. n.
mendax p. 300 Samoa; key to Samoan
spp. p. 304, figs., MARSHALL Ins.
Samoa 4 fasc. 5.

Tyriotideus compressirostris sp. n.
Gabun p. 28, HUSTACHE Sbornik ent.
odd. Nár. Mus. Praze 9.

Xeniella gen. n. (Zygopinae), *hac-*
quardi sp. n. Zanzibar p. 24, HUS-
TACHE t.c.

Xerodermus himalayanus p. 272,
direptus p. 273, *cylindricollis* p. 274,
spp. n. India figs., MARSHALL Ind. For.
Rec. 16.

Xestolabus lepidus sp. n. Brazil p. 63,
Voss Sbornik ent. odd. Nár. Mus. Praze
8 1930.

Xylinophorus revision pp. 123-137;
Subxylinophorus, *Meteutinopus* subgen.
n. p. 125, ZUMPT Coleopt. Centralbl. 5.

Zena vittipennis New Guinea, *mega-*
lopha Malay Penin. spp. n. p. 154, LEA
Proc. Linn. Soc. N.S.W. 96. /5

Zygops batesi p. 522, *albiventris* p.
523, spp. n. Brazil, HUSTACHE Ann.
Mag. N.H. (10) 8.

Zyrcosa brunnea sp. n. African West
Coast p. 74, HUSTACHE Sbornik ent.
odd. Nár. Mus. Praze 9.

PROTERHINIDAE.

Proterhinus kahanae p. 509, *cristatus*
p. 510, *xanthoxyli*, *phoenix* p. 511,
debiliior p. 512, spp. n. Hawaii, PERKINS
Proc. Hawaii. Ent. Soc. 1929-30 7.

SCOLYTIDAE (IPIDAE).

Faunistic and biological notes on
bark-beetles of the Crimea, BUKOWSKY
Bull. Soc. Nat. Crimée 12 1930 pp. 128-
136.

Records of Scolytidae collected on
Solovetzki I., White Sea, JURKANSAY
Solovki, Solow. Ges. Heimatkunde biol.
Sta. 1928 [not seen].

Scolytids of Białowieża virgin forests,
KARPIŃSKI Polsk. Pismo ent. 10 pp.
18-39, 1 pl. 1 fig.

Revision of Scolytidae of Quelpart I.
(Korea), MURAYAMA Annot. zool. jap.
13 pp. 39-62 figs.

Revision of Scolytidae of Korea, MURAYAMA J. Chosen Nat. Hist. Soc. 11 1930 pp. 6-38, 2 pls. 1 map.

Zoo-geographical distribution of bark-beetles in Czechoslovakia, PFEFFER Verh. deuts. Ges. angew. Ent. 8. Mitgliederversaml. Rostock Aug. 1930 pp. 72-76.

Additions to Stark's Scolytids of the Black Sea, PJATNITZKI Rev. russe Ent. 24 1930 pp. 162-165, 2 figs.

Mine-types of German bark-beetles, PRELL Z. angew. Ent. 18 pp. 361-370.

Distribution of bark-beetles in Finland, SAALAS Verh. deuts. Ges. angew. Ent. 8. Mitgliederversaml. Rostock Aug. 1930 pp. 65-71, 3 figs.

Key to the bark-beetles of European Russia with the exception of Crimea and the Caucasus, SPESIVTZEY Moscow, Govt. Agric. Pub. 3rd edn. 1931 103 pp. 162 figs.

Scolytids of the forests of Chibiny, Lapland, STARK Plant Prot. 7 pp. 19-28, 1 fig.

Studies on the galleries of bark-beetles, TRÄGÅRDH Verh. deuts. Ges. angew. Ent. 8. Mitgliederversaml. Rostock Aug. 1930 pp. 54-64, 10 figs.

Amphicranus caudatus Brazil, eichhoffi E. Bolivia p. 17, mexicanus p. 18, dentatus p. 19 Mexico, spp. n., EGGERS Ent. Bl. 27.—*A. brasiliensis* sp. n. Brazil p. 37, EGGERS Wien. ent. Ztg. 48.

Bothrostermus suturalis sp. n. Brazil p. 32, EGGERS t.c.

Carphoborus attritus sp. n. France p. 274, DE PEYERIMHOFF Bull. Soc. ent. Fr. 1931.

Cnesinus sulcatus, *pumilus* spp. n. Brazil p. 34, EGGERS Wien. ent. Ztg. 48.—*C. marginicollis* sp. n. Trop. America (Antilles or Colombia) p. 15, EGGERS Ent. Bl. 27.

Comesiella gen. n. p. 213, *sicula* sp. n. Sicily p. 211, DEL GUERCIO Atti R. Accad. Georgofilo, Florence (5) 22 1925; also in Redia 19 pp. 63-74, 5 figs.

Orthylus rufopilosus p. 39, *convexicauda* p. 40, *suturalis* (also Bolivia) p. 41, spp. n. Brazil, EGGERS Wien. ent. Ztg. 48.

Cryphalus carpinivorus sp. n. Korea p. 14 fig., MURAYAMA J. Chosen Nat. Hist. Soc. 11 1930.—*C. mangiferae* sp. n. India p. 542 figs., STEBBING Indian Forest Insects 1914; see *Hypocryphalus*.

Dendroctonus rufipennis seasonal history pp. 126-127, WATSON Canad. Ent. 63.—*D. brevicornis* high and low lethal temperatures pp. 303-321 figs., MILLER J. Agric. Res. 43.

Dryocoetes suecicus further description p. 30, EGGERS Ent. Tidskr. 51 1930.—*D. alternans* sp. n. Brazil p. 30, EGGERS Wien. ent. Ztg. 48.—*D. confusus* seasonal history pp. 247-248, MATHERS Canad. Ent. 63.

Eupagiocerus ater sp. n. Venezuela p. 14, EGGERS Ent. Bl. 27.

Gnathotrichoides subgen. n. see *Gnathotrichus*.

Gnathotrichus morphology pp. 1-88 figs., SCHEDL Smiths. Misc. Coll. 82 no. 10.—*G.* revision p. 264, *denticulatus* p. 270, *alni* p. 271 (*Gnathotrichoides* subgen. n. p. 267), *aciculatus* p. 272, spp. n. N. America figs., BLACKMAN J. Wash. Acad. Sci. 21.

Hexacolus bicolor sp. n. Brazil p. 33, EGGERS Wien. ent. Ztg. 48.

Hylastes horridus Egg. not a Scolytid, KOLOSSEV Ent. Bl. 27.

Hylesinus botscharnikovi sp. n. Caucasus p. 81, STARK Bull. Inst. Contr. Pests Dis. 1.—*H. oleiperda* pp. 39-51, *frazini* pp. 51-62 morphology, biology figs., DEL GUERCIO Redia 19.

Hypocryphalus mangiferae Stebb. (= *mangiferae* Egg.) p. 185, EGGERS Wien. ent. Ztg. 47.

Phloeosinus armatus Reitt. (= *andresi* Egg.) p. 186, EGGERS t.c.—*P. variolatus* p. 126, *aciculatus* p. 127, spp. n. U.S.A., BRUCK Pan-Pacific Ent. 7.

Phloeotribus scarabaeoides morphology, biology pp. 1-37 figs., DEL GUERCIO Redia 19.—*P. oleiphilus* sp. n. Italy p. 196, DEL GUERCIO Atti R. Accad. Georgofilo, Florence (5) 22 1925; also in Redia 19 pp. 37-39, 1 fig.

Pityogenes chalcographus biology pp. 249-251 fig., BORODAEVSKIĖ Plant Prot. 7.—*P. monacensis* var. n. bialowiezensis Poland p. 33, KARPINSKY Polsk. Pismo ent. 10.

Pityophthorus smithi p. 163, *pygmaeus* p. 165, *pilifer* p. 166, spp. n. Canada figs., SCHEDL Canad. Ent. 63.—*P. irregularis*, *aterrimus* spp. n. Brazil p. 31, EGGERS Wien. ent. Ztg. 48.—*P. kirgisicus* p. 167, *parfentievi* p. 169, *schrenkianae* p. 171, spp. n. Kirgiz figs., PJATNITZKIË Ent. Bl. 27.

Pseudopityophthorus revision p. 223, *fagi* p. 228, *pubescens* p. 229, *granulatus*, *agrifoliae* p. 230, *pulvereus* p. 232, *yavapai* p. 233, *opacicollis* p. 235, spp. n. N. America figs., BLACKMAN J. Wash. Acad. Sci. 21.

Scolytplatypus nanus sp. n. Java p. 118 figs., SCHEDL Ent. Bl. 27.

Scolytopsis brasiliensis sp. n. Brazil p. 16, EGGERS Ent. Bl. 27.

Scolytus bicolor sp. n. S. America p. 15, EGGERS t.c.—*S. seulensis* sp. n. Korea p. 9, MURAYAMA J. Chosen N.H. Soc. 11 1930.—*S. amygdali* biology pp. 327–349 figs., RUSSO Boll. Lab. Zool. Portici 25.—*S. destructor* biology pp. 120–131 figs., FISHER Forestry 5.—*S. rugulosus* list of parasites p. 245, FINTZESCU Bull. Acad. Roumanie 13 1930.—*S. ratzeburgi* Jans. (= *sahlbergi* Egg.) p. 118, KOLOSOSOV Ent. Bl. 27.—*S. caudatus* Argentina p. 35, *pseudocaudatus* Brazil p. 37, spp. n., EGGERS Wien. ent. Ztg. 48.

Stephanoderes bolivianus sp. n. Bolivia p. 29, EGGERS t.c.

Tricolus affinis sp. n. Brazil p. 38, EGGERS t.c.

Xyleborus seiryorensis sp. n. Korea p. 25, MURAYAMA J. Chosen N.H. Soc. 11 1930.—*X. ebriosus* ♂ p. 44, *octiesdentatus* sp. n. p. 46 Quelpart I. (Korea) figs., MURAYAMA Annot. zool. jap. 13.—*X. mexicanus* p. 19, *asperulus* Mexico, *elevatus* Venezuela p. 21, *gundlachi* Cuba p. 20, *alter* Brazil, *granulicauda* Fr. Guiana p. 22, spp. n., EGGERS Ent. Bl. 27.—*X. justus* p. 339, *semi-granulatus* p. 340, *vestitus* p. 341 Java, *vespatorius* p. 342, *argentiniensis* p. 345 Argentina, *xylocranellus* Brazil p. 344, spp. n., SCHEDL Ann. Mag. N.H. (10) 8.

PLATYPIDAE.

Revision of Platypidae of Quelpart I. (Korea), MURAYAMA Annot. zool. jap. 13 pp. 39–62 figs.

Revision of Platypidae of Korea, MURAYAMA J. Chosen Nat. Hist. Soc. 11 1930 pp. 27–38, 2 pls. 1 map, 1 fig.

Supplementary notes on Platypodidae of Formosa, III, MURAYAMA J. Fac. Agric. Hokkaido Imp. Univ. 30 pp. 195–203.

Crossotarsus koryoensis sp. n. Korea p. 28, MURAYAMA J. Chosen N.H. Soc. 11 1930.

Diaprus aculeatus ♀ p. 201, subsp. n. javanus Java p. 200, MURAYAMA J. Fac. Agric. Hokkaido Imp. Univ. 30.

Platypus niijimai sp. n. Formosa p. 197, MURAYAMA t.c.—*P. sulcatus* Chap. (= *plicatus* Brèthes) p. 6; *navarro-de-andradei* sp. n. Brazil p. 10, systematic notes on some La Plata spp. pp. 5–10 figs., MARELLI Maderil 3 no. 31.

BRENTHIDAE.

List of Brenthidæ from the Japanese Empire, KANO Kontyû 4 1930 pp. 151–154.

Brenthidæ of the Philippines, KLEINE Philipp. J. Sci. 46 pp. 383–445, 16 figs.

Brenthidæ of China, KLEINE Lingnan Sci. J. 7 pp. 491–493.

Biology of Brenthidæ, KLEINE Ent. Rdsch. 48 pp. 93–98, 110 etc. 4 figs.

Revision of Brenthidæ, KLEINE Ent. Z. 44 pp. 307–308, 366–368, 45 pp. 104–106, 162 etc.

Calodromus horishanus sp. n. Japan p. 153, KANO Kontyû 4 1930.—*C. douglasi* sp. n. Sumatra p. 184 fig., KLEINE Tijdschr. Ent. 74.

Cyphagogus gemellus Madras p. 93, *violaceonitens* Selangor p. 94, spp. n., KLEINE Ent. Rdsch. 48.

Ectocemus madrasanus sp. n. Madras p. 96 fig., KLEINE t.c.

Estenorrhinus ecuadorensis sp. n. Ecuador p. 95 fig., KLEINE t.c.

Eutactus cavus sp. n. New Guinea p. 97 figs., KLEINE t.c. *ho*

Hemiorychodes compactus sp. n. Madras p. 95 fig., KLEINE t.c.

Hypomiolispa gardneri sp. n. Bengal p. 94 figs., KLEINE t.c.

Ithystenus forficulatus sp. n. New Guinea p. 97 fig., KLEINE t.c.

ANTHRIBIDAE.

List of Anthribidae of Java, JORDAN Novit. zool. 36 pp. 288–302, 4 figs.

Anthribidae not Platystomidae, JORDAN Novit. zool. 36 pp. 281–287.

Acorynus lineolatus subsp. n. *slamatus* Java p. 288, JORDAN Novit. zool. 36.

Adoxastia gen. n., *drescheri* (type) p. 299, *trux* p. 300, spp. n. Java figs., JORDAN t.c.

Anaulodus punctatus sp. n. E. Africa p. 74, WOLFRUM Ent. Bl. 27.

Anthrribus a valid name pp. 281-287, *ornaticollis* sp. n. W. Africa p. 306, JORDAN Novit. zool. 36.

Apatenia viduata subsp. n. *promota* Java p. 294, JORDAN t.c.

Araecerus conabilis sp. n. Java p. 303, JORDAN t.c.—*A. fasciculatus* biology, description pp. 52-61 figs., AUTUORI Rev. Ent. S. Paulo 1.

Brachytarsus franseria sp. n. California p. 188, BARRETT Pan-Pacific Ent. 7.—*B. kuwanai* sp. n. Japan in pp. 21-25 fig., YUASA Oyo-Dobuts. Zasshi 3.—*B. zaeae, secundus* spp. n. Argentina p. 75, WOLFRUM Ent. Bl. 27.

Caranistes peregrinus sp. n. E. Africa p. 76, WOLFRUM t.c.

Cleorisintor drescheri sp. n. Java p. 297, JORDAN Novit. zool. 36.

Epicerastes incultus sp. n. E. Africa p. 75, WOLFRUM Ent. Bl. 27.—*E. key* p. 309, *adustus, muscosus* p. 307, *musculus Kamerun, exstans* Belgian Congo, *latimanus* Nyasaland p. 308, spp. n., JORDAN Novit. zool. 36.

Epidysnos gen. n., *procer* sp. n. Java p. 301, JORDAN t.c.

Exillis impunctatus subsp. n. *vagus* Key I. p. 74, WOLFRUM Ent. Bl. 27.

Gymnognathus indagatus sp. n. Costa Rica p. 71, WOLFRUM t.c.

Hucus concinnus sp. n. Java p. 290, JORDAN Novit. zool. 36.

Hypseus cyphus, scaphidius spp. n. Java p. 295, JORDAN t.c.

Litocerus xenopus sp. n.; *figuratus* subsp. n. *notalis* Java p. 289, JORDAN t.c.

Mecocerus gratus sp. n. Belgian Congo p. 305, JORDAN t.c.

Misthosima badia sp. n. Java p. 301, JORDAN t.c.

Neanthrribus nevermanni sp. n. Costa Rica p. 72, WOLFRUM Ent. Bl. 27.

Nessiara cognata sp. n. Java p. 293, JORDAN Novit. zool. 36.

Opisolia gen. n. p. 479, *lenis* sp. n. Juan Fernandez I. p. 480, JORDAN Nat. Hist. Juan Fern., Uppsala 3 (Zool.).

Phaenotheriopsis gen. n., *bierigi* sp. n. Cuba p. 70, WOLFRUM Ent. Bl. 27.

Phaulimia lineosa sp. n. Java p. 296, JORDAN Novit. zool. 36.

Phloeobius facilis sp. n. Java p. 298, JORDAN t.c.

Sintor floridus sp. n. Java p. 296, JORDAN t.c.

Syntophoderes simplicipes, phrator spp. n. Belgian Congo p. 305, JORDAN t.c.

Uncifer hapalus sp. n. Java p. 292, JORDAN t.c.

Xylinades nodicornis Weber (= *westermanni* Gyll. var. β); *westermanni* Gyll. (= *vicinus* Jordan) p. 298, JORDAN t.c.

Zygaenodes rectimargo p. 291, *leptipus* p. 292 Java, *kalshoveni* Br. India p. 303, *auritus* Belgian Congo p. 306, spp. n. figs., JORDAN t.c.

Longicornia.

List (part) of Longicornia of Lyons district, BONNAMOUR Ann. Soc. linn. Lyon 76 pp. 119-132.

Copulatory apparatus in male Longicorns, BUGNION Bull. biol. France-Belg. 65 pp. 234-265, 11 figs.

Immature stages of Indian Cerambycidae (contd.), GARDNER Ind. For. Rec. 16 pp. 49-89, 107-111, 3 pls.

Cerambycidae of Sorsele, Sweden, GAUNITZ Ent. Tidskr. 51 1930 pp. 72-75.

Contribution to the knowledge of Bulgarian Cerambycidae, HEYROVSKÝ Mitt. naturw. Inst. Sofia 4 pp. 79-86, 2 figs.

Phylogenetic and systematic studies on morphology of wings of Cerambycidae, MARAN Sbornik ent. odd. Nár. Mus. Praha 8 1930 pp. 20-50, 1 pl.

Synonymy of some Cerambycids, PLAVILSTSHIKOV Koleopt. Rdsch. 17 pp. 195-203.

Distribution of some Palaearctic Cerambycidae, II, PLAVILSTSHIKOV Ent. NachrBl. 5 pp. 71-76.

Contribution to the knowledge of the Cerambycid fauna of Volhynia, ZAITSEV Trav. Mus. zool. Kiev no. 10 pp. 241-249.

PRIONIDAE.

Prionids of the Belgian Congo, BURGEON Rev. Zool. Bot. afr. 20 pp. (71)-(77), 4 figs.

Classification of Formosan Prioninae, YOSHIDA Trans. N.H. Soc. Formosa 21 pp. 266-279.

Lulua gen. n. p. 92, *squamosa* sp. n. Belgian Congo p. 93, BURGEON Rev. Zool. Bot. afr. 21.

Megopis sinica larva p. 264, life-history p. 267 figs., KOJIMA J. Coll. Agric. Imp. Univ. Tokyo 11.—*M. sinica* subsp. n. *cornicula* Formosa p. 273, YOSHIDA Trans. N.H. Soc. Formosa 21.

Prionus coriarius L. (= *burdajewiezi* Bodem.) p. 195, PLAVILSTSHIKOV Koleopt. Rdsch. 17.—*P. insularis* larva p. 269, life-history p. 271 figs., KOJIMA J. Coll. Agric. Imp. Univ. Tokyo 11.

Psephactus remiger larva p. 272, pupa p. 274 figs., KOJIMA t.c.

CERAMBYCIDAE.

List of the Callichromini of the Belgian Congo in the collections of the Congo Museum, BURGEON Rev. Zool. Bot. afr. 20 pp. 108-131.

Revision of European Disteniini and Cerambycini, PLAVILSTSHIKOV Best.-Tabellen europ. Coleopt. 100 pp. 1-102.

Notes on Polish Cerambycidae, I, SULMA Polsk. Pismo ent. 10 pp. 141-143.

Cerambycinae from Kartabo, Bartica District, Br. Guiana, WILLIAMS Ent. News 42 pp. 222-226.

Acmaeops angusticollis Gebl. (= *amurensis* Suv.) p. 59, PLAVILSTSHIKOV Ent. Bl. 27.

Aromia moschata ab. n. *versicolore* I. of Wight p. 142, DONISTHORPE Ent. Rec. 43.

Aseum Esch. (= *Liasemum* Csy.) p. 234, *atrum* Esch. synonymy p. 235, HOPPING Canad. Ent. 63.—*A. amurense* ab. n. *limbatum* Manchuria p. 27, PLAVILSTSHIKOV Best.-Tab. europ. Col. 100.

Brachypteroma ottomanum ab. n. *pallidipenne* N. Italy p. 38, PLAVILSTSHIKOV Ent. NachrBl. 5.

Brachyta interrogationis sachalinensis see *Evodinus interrogationis kraatzii*.

Callichroma bimaculatum, provosti see *Embrik-strandia*.

Callideriphus atricollis sp. n. Brazil p. 56 fig., MELZER Arch. Inst. biol. S. Paulo 4.

Callimellum abdominale Oliv. (= *akbesianum* Pic) p. 197, PLAVILSTSHIKOV Koleopt. Rdsch. 17.

Callimoxys gracilis ab. n. *nigro-signatus* Transcaucasia p. 38, PLAVILSTSHIKOV Ent. NachrBl. 5.

Carinoclytus gen. n. p. 367, AURIVILLIUS Col. Cat. 39 1912.

Cerambyx scopoli biology pp. 245-248, RUDNEV Plant Prot. 7.

Ceresium sinicum larva p. 279, pupa p. 281 figs., KOJIMA J. Coll. Agric. Imp. Univ. Tokyo 11.—*C. humerale* sp. n. Borneo p. 197 fig., SCHWARZER Senckenbergiana 13.—*C. granuloso* sp. n. Tonkin p. 12, PIC Mél. exot.-ent. 57.—*C. sinicum* White (= *ornaticolle* Pic p. 195, *innotaticolle* Pic); *zeylanicum* White (= *longicorne* Pic) p. 196, PLAVILSTSHIKOV Koleopt. Rdsch. 17.

Chenoderus revision of S. American spp. pp. 332-337, key p. 334 fig., PORTER Rev. chil. Hist. nat. 34 1930.

Chlorophorus mushanus sp. n. Formosa p. 44 fig., MATSUSHITA Trans. Sapporo N.H. Soc. 12.—*C. varius* ff. n. *bigemina*, *cejakai* Dalmatia, p. 4, ROUBAL Misc. ent. 33; varr. n. *areschanus* Caucasus, *paulojunctus* Jericho p. 37, PIC Misc. ent. 33.—*C. hauseri* sp. n. China p. 258, PIC Bull. Soc. ent. Fr. 1931.—*C. gracilipes* Fald. (= *Clyanthus sachalinensis* Mats.) p. 202, PLAVILSTSHIKOV Koleopt. Rdsch. 17.—*C. austerus* ab. n. *austeroides* New Guinea; *annularis* ab. n. *semicircularis* India fig., PLAVILSTSHIKOV Ent. NachrBl. 5.

Chromacilla collaris var. n. *colmanti* Belgian Congo p. 123, BURGEON Rev. Zool. Bot. afr. 20.

Chrysoprasia aspericollis sp. n. Paraguay p. 56 fig., MELZER Arch. Inst. biol. S. Paulo 4.

Cloniophorus collarti p. 118, *lujai* p. 120, *overlaeti* p. 121, spp. n. Belgian Congo, BURGEON Rev. Zool. Bot. afr. 20.

Clytanthus sachalinensis see *Chlorophorus gracilipes*.

Clytellus elongata sp. n. Tonkin p. 13, PIC Mél. exot.-ent. 57.

Clytosaurus siamensis Jord., *Xylotrechus signaticollis*, PIC. a var. of p. 258, PIC Bull. Soc. ent. Fr. 1931.

Clytus arietis ab. n. *kozlovskyi* Transcaucasia p. 87 fig., PLAVILSTSHIKOV Ent. NachrBl. 5.—*C. tropicus* varr. n. *prescutellaris*, *interruptus* France; *arietis* var. n. *heyrowskyi* Czechoslovakia p. 14, PIC Echange 47.

Coleoxestia n. n. for *Xestia* Serv. p. 64, AURIVILLIUS Col. Cat. 39 1912.

Conamblys callewaerti, *nitidissimus* spp. n. Belgian Congo p. 128, BURGEON Rev. Zool. Bot. afr. 20.

Cortodera humeralis var. n. *discoidalis* France p. 6, PIC Echange 47.

Cylindroplocia helleri sp. n. Mindanao p. 76 fig., SCHWARZER Senckenbergiana 13.

Cyllene quinquefasciata sp. n. Bolivia p. 55 fig., MELZER Arch. Inst. biol. S. Paulo 4.—*C. cleroides* sp. n. Brazil p. 194 fig., MELZER Rev. Ent. S. Paulo 1.

Debilia see *Debilissa*.

Debilissa n. n. for *Debilia* Fairm. p. 274, AURIVILLIUS Col. Cat. 39 1912.

Demonax flavicollis sp. n. Formosa p. 403, MATSUSHITA Mitt. zool. Mus. Berl. 17.—*D. detortus* ab. n. *imuganica* Luzon p. 86 fig., PLAVILSTSHIKOV Ent. NachrBl. 5.—*D. lineaticollis* sp. n. Assam p. 64 figs., SCHWARZER Senckenbergiana 13.

Dialeges undulatus subsp. n. *villosicornis* Java p. 60 fig., SCHWARZER t.c.

Eburida see *Eburilla*.

Eburilla n. n. for *Eburida* Broun p. 117, AURIVILLIUS Col. Cat. 39 1912.

Ectenessa quadrispinosa sp. n. Brazil p. 192 fig., MELZER Rev. Ent. S. Paulo 1.

Embrik-strandia gen. n. for *Callichroma bimaculatum* White (type) p. 278, *provosti* Fairm.; *davidis* Deyr. a var. of *bimaculatum* p. 279, PLAVILSTSHIKOV Folia zool. hydrobiol. 3.

Ephies philippensis sp. n. Philippines p. 197 fig., SCHWARZER Senckenbergiana 13.

Epimelitta consobrina sp. n. Brazil p. 1, MELZER Rev. Ent. S. Paulo 1.

Eplophorus status discussed p. 99, *velutinus* sp. n. Honduras p. 100, FISHER Psyche 38.

Eriocharis n. n. for *Eriosoma* Lac. p. 483, AURIVILLIUS Col. Cat. 39 1912.

Eriosoma see *Eriocharis*.

Eulitopus tenuis subsp. n. *kasaiensis* Belgian Congo p. 126, BURGEON Rev. Zool. Bot. afr. 20.

Euporus katanganus sp. n. Belgian Congo p. 125, BURGEON t.c.

Eurybatus formosus ab. n. *irinae* Assam p. 39, PLAVILSTSHIKOV Ent. NachrBl. 5.

Evander see *Parevander*.

Evodinus interrogationis ab. *kraatzii* Ganglb. (= *Brachyta interrogationis* var. *sachalinensis* Mats.) p. 200, PLAVILSTSHIKOV Koleopt. Rdsch. 17.

Falsobrium minutum sp. n. Tonkin p. 12, PIC Mél. exot.-ent. 57.

Georgiana n. n. for *Georgia* Thoms. p. 450, AURIVILLIUS Col. Cat. 39 1912.

Grammoptera erythropus Gebl. (= *ingrica* Baeckm. and var. *diversipes* Pic) p. 200, PLAVILSTSHIKOV Koleopt. Rdsch. 17.—*G. gracilis* Brancs. (= *semenovi* Baeckm.) p. 21, HEYROVSKÝ Ent. NachrBl. 5.

Helymaeus bayeri sp. n. Belgian Congo p. 131, BURGEON Rev. Zool. Bot. afr. 20.

Hemadius oenochrous Fairm. (= *Neocerambyx stötzneri* Hell.) p. 195, PLAVILSTSHIKOV Koleopt. Rdsch. 17.

Hoplocerambyx spinicornis Newm. (= *minor* Pic) p. 195, PLAVILSTSHIKOV t.c.—*H. abnormis* sp. n. New Guinea p. 59 fig., SCHWARZER Senckenbergiana 13.

Hospes scutellaris sp. n. Belgian Congo p. 109, BURGEON Rev. Zool. Bot. afr. 20.

Hybunca nodicollis sp. n. Belgian Congo p. 130, BURGEON t.c.

Ibidion opacicolle Brazil p. 53, *v. flavum* p. 54, spp. n. figs., MELZER Arch. Inst. biol. S. Paulo 4.

Judolia longipes ab. n. *erythruroides* E. Siberia p. 8, JUREČEK Ent. NachrBl. 5.

Leptura akitensis sp. n. Japan p. 42, MATSUSHITA Trans. Sapporo N.H. Soc. 12.—*L. deyrollei* further description, with var. n. *kulzeri* Batum-Somlja p. 22, HEYROVSKÝ Ent. NachrBl. 5.—*L. unipunctata* var. n. *xambeui* Pyrenees p. 6, Pic Echange 47.—*L. renardi* Gebl. (= *mongolica* Pic); *tripartita* Heyd. (= *morgani* Pic) p. 200, PAVILSTSHIKOV Koleopt. Rdsch. 17.—*L. 10-maculata* see *Oedecnema dubia*; *rubripennis* see *Nivellia sanguinosa*.

Liasemum see *Asemum*.

Litopus schoutedeni sp. n. Belgian Congo p. 108, BURGEON Rev. Zool. Bot. afr. 20.

Mallambyx raddei larva p. 275, pupa p. 278 figs., KOJIMA J. Coll. Agric. Imp. Univ. Tokyo 11.

Malloccera pickeli sp. n. Pernambuco p. 52 fig., MELZER Arch. Inst. biol. S. Paulo 4.—*M.* see *Paramalocera*.

Massicus subregularis sp. n. Sumatra p. 60 fig., SCHWARZER Senckenbergiana 13.

Mecosaspis subvestita varr. n. *centralis*, *maynei*; *aureovittata* sp. n. p. 115; *chalybeata* subsp. n. *ituriansis* p. 117 Belgian Congo, BURGEON Rev. Zool. Bot. afr. 20.

Merionoeda ruficollis sp. n. Sumatra p. 13, Pic Mél. exot.-ent. 57.

Metaleptus brasiliensis Schauf. from *Purpuricen*, further description p. 57, MELZER Arch. Inst. biol. S. Paulo 4.

Metallichroma cupreum sp. n. Belgian Congo p. 121, BURGEON Rev. Zool. Bot. afr. 20.

Miocris nigroscutatus var. n. *bisbi-maculatus* Kurseong p. 59, Pic Sbornik ent. odd. Nár. Mus. Praze 8 1930.

Molorchus eburneus sp. n. California p. 37, LINSLEY Pan-Pacific Ent. 8.—*M. minor* var. n. *monticola*; *pallidipennis* abb. n. *pallidulus*, *obscuratus* Transcaucasia p. 38, PAVILSTSHIKOV Ent. NachrBl. 5.

Nadezhdiella gen. n. for *cantori* Hope p. 71, PAVILSTSHIKOV Best.-Tab. europ. Col. 100.

Neocerambyx stötzneri see *Hemadius cenoehrous*.

Neoclytarlus raillardiae p. 416, *geranii* p. 417 spp. n.; *indeceus* var. n. *kainaluensis* p. 418 Hawaii, PERKINS Proc. Hawaii. Ent. Soc. 1929-30 7.

Neospherion sauteri sp. n. Formosa p. 399, MATSUSHITA Mitt. zool. Mus. Berl. 17.

Nivellia sanguinosa Gyllh. (= *Leptura rubripennis* Mats.) p. 201, PAVILSTSHIKOV Koleopt. Rdsch. 17.

Ocalemia quadrifasciata sp. n. Luzon p. 198 fig., SCHWARZER Senckenbergiana 13.

Oedecnema dubia F. (= *Leptura 10-maculata* Mats.) p. 201, PAVILSTSHIKOV Koleopt. Rdsch. 17.

Oplatocera callidioides ab. n. *conjuncta* N. India p. 52, PAVILSTSHIKOV Best.-Tab. europ. Col. 100.

Paramalocera n. n. for *Malloccera* Lac. nec Serv. p. 100, AURIVILLIUS Col. Cat. 39 1912.

Parevander n. n. for *Evander* Lac. nec Thoms. p. 453, AURIVILLIUS t.c.

Perissus glaucinus ab. n. *keyensis* Key I. p. 85, PAVILSTSHIKOV Ent. NachrBl. 5.

Phymatodes testaceus f. n. *combinata* Czechoslovakia p. 83, ROUBAL Ent. NachrBl. 5.

Pidonia quadrata sp. n. Canada p. 233, HOPPING Canad. Ent. 63.

Plagionotus speciosus ff. n. *apiceconfluens* p. 57, *latebasalis*, *posticereductus*, *anatolicus* p. 58 Transcaucasia, PAVILSTSHIKOV Misc. ent. 33.

Plagithmysus rubi, *simillimus* spp. n. Hawaii p. 415, PERKINS Proc. Hawaii. Ent. Soc. 1929-30 7.

Poecilobrium gibsoni sp. n. Canada p. 234, HOPPING Canad. Ent. 63.

Porithea see *Porithodes*.

Porithodes gen. n. for *Porithea* Blackb. p. 94, AURIVILLIUS Col. Cat. 39 1912.

Pronocera sibirica Gebl. (= *Rhopalopus ruficollis* Mats.) p. 202, PAVILSTSHIKOV Koleopt. Rdsch. 17.

Pseudaeolesthes gen. n. for *chrysothrix* Bat. p. 73, PAVILSTSHIKOV Best.-Tab. europ. Col. 100.

Pseudallotraeus Pic with *rufescens* Pic, *atripes* Pic nom. nud. p. 198, PAVILSTSHIKOV Koleopt. Rdsch. 17.

Pseudopidonia albomaculata sp. n. Formosa p. 401, MATSUSHITA Mitt. zool. Mus. Berl. 17.—*P. rubricollis* sp. n. Ussuri p. 257; *gibbicollis* var. n. *marginata* Amur p. 258, PIC Bull. Soc. ent. Fr. 1931.

Pteroptychus n. n. for *Ptychopterus* Broun p. 117, AURIVILLIUS Col. Cat. 39 1912.

Ptycholaemus longicollis p. 64, *variecollis* p. 65 (with subsp. n. *lateralis*) p. 66, spp. n. Belgian Congo figs., SCHWARZER Senckenbergiana 13.

Ptychopterus see *Pteroptychus*.

Purpuricenus temminckii var. n. *obscura* Japan p. 127 [in Japanese], MITSUHASHI Coll. Essays Nawa, Tokyo 1917.—*P. brasiliensis* see *Metaleptus*.

Quettania gen. n. (nr. *Anubis*) p. 62, *coeruleipennis* sp. n. India p. 63 fig., SCHWARZER Senckenbergiana 13.

Rhagium fasciculatum ab. n. *unifasciculatum*; *pygmaeum* ab. n. *inapicale* Transcaucasia p. 39, PLAVILSTSHIKOV Ent. NachrBl. 5.

Rhamnusium testaceipenne var. n. *mesmimi* Caucasia p. 6, PIC Echange 47.

Rhaphuma nigrocincta, baibarae p. 401, *virens* p. 402, spp. n. Formosa, MATSUSHITA Mitt. zool. Mus. Berl. 17.—*R. bimaculata, maculata* spp. n. India p. 63 figs., SCHWARZER Senckenbergiana 13.

Rhathymoscelis zikani sp. n. Amazonas p. 54 fig., MELZER Arch. Inst. biol. S. Paulo 4.

Rhondia formosa sp. n. Formosa p. 400, MATSUSHITA Mitt. zool. Mus. Berl. 17.

Rhopalizus euporidus var. n. *plicatcollis*; *dorsalis* sp. n. Belgian Congo p. 111, BURGEON Rev. Zool. Bot. afr. 20.

Rhopalomeces congoensis sp. n. Belgian Congo p. 126, BURGEON t.c.

Rhopalopus lederi Gangl. (= *nigripes* Pic) p. 201, PLAVILSTSHIKOV Koleopt. Rdsch. 17.—*R. clavipes* var. n. *sculpturatus* Asia Minor p. 9, PIC Echange 47.—*R. ruficollis* see *Pronocera sibirica*.

Rosalia alpina and var. *interrupta* synonymy p. 203, PLAVILSTSHIKOV Koleopt. Rdsch. 17.

Semanotus bifasciatus Motsch. (= *sinensis* Gah.) p. 201, PLAVILSTSHIKOV t.c.—*S. lignea* var. *ampla* Csý. (= *thujae* Van Dyke) p. 235, HOPPING Canad. Ent. 63.

Sphallenum pubicolle sp. n. Brazil p. 52 fig., MELZER Arch. Inst. biol. S. Paulo 4.

Spondylis buprestoides L. (= var. *zwerigi* Bodem.) p. 195, PLAVILSTSHIKOV Koleopt. Rdsch. 17.

Stenoeme recki sp. n. Brazil p. 191 fig., MELZER Rev. Ent. S. Paulo 1.

Stenopterus rufus (= var. *syriacus* Pic p. 196, *atricornis* Pic); *flavicornis* Küst. (= *kraatzi* Pic) p. 197, PLAVILSTSHIKOV Koleopt. Rdsch. 17.—*S. ater* ab. n. *lividipennis* Balearic Is.; *rufus* ab. n. *nigrolineatus* Transcaucasia p. 37, PLAVILSTSHIKOV Ent. NachrBl. 5.

Strangalia melanura ab. n. *corvina* Russia p. 38; *quadrizona* ab. n. *zaitzevi* Yunnan p. 39, PLAVILSTSHIKOV t.c.—*S. thoracica* key to varr., ab. n. *stictipes* Carpathians p. 23, HEYROVSKÝ Ent. NachrBl. 5.—*S. auratopilosa* sp. n. Formosa p. 42, MATSUSHITA Trans. Sapporo N.H. Soc. 12.

Temnopsis bucki sp. n. Rio Grande do Sul p. 51 fig., MELZER Arch. Inst. biol. S. Paulo 4.

Tetropium luridum var. n. *atricorne* China p. 258, PIC Bull. Soc. ent. Fr. 1931.—*T. gabrieli* ab. n. *schmitschekei* Tyrol p. 31; *gracilicorne* ab. n. *subluridum* Transbaikalia p. 32; *fuscum* ab. n. *obscuratum* Russia p. 34, PLAVILSTSHIKOV Best.-Tab. europ. Col. 100.

Trachelia see *Trachelissa*.

Trachelissa n. n. for *Trachelia* Serv. p. 449, AURIVILLIUS Col. Cat. 39 1912.

Xestia see *Coleoxestia*.

Xylosteus spinolae ab. n. *bulgaricus* Bulgaria p. 84, HEYROVSKÝ Mitt. naturw. Inst. Sofia 4.

Xylotrechus pallidipennis sp. n. Japan p. 154 fig., MATSUMURA Ill. Thous. Ins. Japan 3 1906.—*X. ogasawarensis* sp. n. Japan p. 43, MATSUSHITA Trans. Sapporo N.H. Soc. 12.—*X. pantherinus* ab. n. *saveniusi*; *adpersus* ab. n. *gluchichi* Siberia; *grumi* ab. n. *schelli*, *kasakstanica* Turkestan; *namanganensis* ab. n. *apicedenudatus* Tashkent; *contortus* ab. n. *conjunctus* Sikkim p. 85,

PLAVILSTSHIKOV Ent. NachrBl. 5.—X. *signaticollis* Pic a var. of *Clytosaurus siamensis* Jord. p. 258, Pic Bull. Soc. ent. Fr. 1931.

LAMIIDAE.

Abryna hoffmeisteri see *Aprophata ruficollis*.

Acanthocinus aedilis biology pp. 68–77, KONTKANEN Ann. Soc. zool.-bot. fenn. Vanamo, Helsinki 8 1929.

Acanthoderes clavipes new to Japan in pp. 376–378, MATSUSHITA Insect Wld. 35.—*A. propinqua* sp. n. Brazil p. 61 fig., MELZER Arch. Inst. biol. S. Paulo 4.

Acronia strasseni sp. n. Philippines p. 70 fig., SCHWARZER Senckenbergiana 13.

Adesmus sannio p. 77, *dignus* p. 78, *collaris* spp. n.; *suturatus* var. n. *melancolicus* p. 79 Brazil figs., MELZER Arch. Inst. biol. S. Paulo 4.

Agapanthia daurica Ganglb. (= *melancholica* Suv.); *alternans* Fisch. (= *transbaicalica* Suv.) p. 60, PLAVILSTSHIKOV Ent. Bl. 27.—*A. verecunda* Chevrr. (= *delagrangei* Pic); *angelicae* Reitt. (= *auliensis* Pic) p. 199, PLAVILSTSHIKOV Koleopt. Rdsch. 17.

Aldicion deletum bionomics pp. 82–90 figs., CLEARE Agric. J. Br. Guiana 4.

Alicia see *Tetralicia*.

Alphus bruchi sp. n. Argentina p. 195 fig., MELZER Rev. Ent. S. Paulo 1.

Amphionycha see *Hemierana*.

Anisopodesthes gen. n. p. 66, *zikani* sp. n. Brazil p. 67 fig., MELZER Arch. Inst. biol. S. Paulo 4.

Anisopodus subarmatus sp. n. Brazil p. 65 fig., MELZER t.c.

Aprophata vigintiquatuormaculata sp. n. Luzon p. 207; *ruficollis* Hell. (= *Abryna hoffmeisteri* Schultze) p. 208 fig., SCHWARZER Senckenbergiana 13.

Arrhenotus soembanus sp. n. Sumba I. p. 205 fig., SCHWARZER t.c.

Asaperda meridiana sp. n. Formosa p. 45, MATSUSHITA Trans. Sapporo N.H. Soc. 12.

Astynomus see *Astyochus*.

Astyochus n. n. for *Astynomus* Cast. nec Dej. p. 427, AURIVILLIUS Col. Cat. 74 1923.

Atelais basigranosus sp. n. Luzon p. 76 figs., SCHWARZER Senckenbergiana 13.

Atimura tonkinae sp. n. Tonkin p. 14, Pic Mél. exot.-ent. 57.

Atrypanius multifasciatus see *Leiopus scitulus*.

Bubalophrys gen. n. p. 201, *roseolata* sp. n. Sumatra p. 202 figs., SCHWARZER Senckenbergiana 13.

Calamobius filum var. n. *magnini* Algeria p. 10, Pic Echange 47.

Callia cyanea sp. n. Brazil p. 14 fig., MELZER Rev. Ent. S. Paulo 1.

Catafimbria n. n. for *Fimbria* Belon nec Boh. p. 260, AURIVILLIUS Col. Cat. 73 1922.

Celosterna scabrator life-history pp. 279–286 fig., BEESON Ind. For. Rec. 16.

Cenodocus gardneri sp. n. India p. 71 fig., SCHWARZER Senckenbergiana 13.

Choeromorpha adspersa sp. n. Dehra-Dun p. 68 fig., SCHWARZER t.c.

Chreonoma bicolor p. 213, *fasciata* p. 214, spp. n. Luzon figs., SCHWARZER t.c.

Cosmotoma fasciata sp. n. Costa Rica p. 23, FISHER J. Washington Acad. Sci. 21.—*C. setosus* see *Cosmotomidius*.

Cosmotomidius gen. n. for *Cosmotoma setosus* Serv. p. 74 fig., MELZER Arch. Inst. biol. S. Paulo 4.

Dihammus luxuriosus pp. 294–296, *cervinus* pp. 297–300 early stages figs., KOJIMA J. Coll. Agric. Imp. Univ. Tokyo 11.—*D. subauratus* Borneo p. 68, *fuscosericeus* Philippines p. 200, spp. n. figs., SCHWARZER Senckenbergiana 13.

Dorcadion borisi sp. n. Bulgaria p. 84 figs., HEYROVSKÝ Mitt. naturw. Inst. Sofia 4.—*D. destinoi* var. n. *subelongatum* Akbes; *aleppense* varr. n. *tabense* p. 1, *internotatum* p. 9 Syria; *gallipolitanum* var. n. *regulare* Bulgaria p. 6; *pedestre* varr. n. *atritarse* Greece, *ruficorne* Hungary; *olympicum* var. n. *distinguendum* Macedonia p. 10, Pic Echange 47.—*D. schrammianum* n. n. for *tricolor* Schramm nec Fisch. p. 198, PLAVILSTSHIKOV Koleopt. Rdsch. 17.—*D. strandi* sp. n. (with abb. n. *nigrosca-pum*, *subgeniculatum*, *dorsoreductum*) Kashgaria p. 274, PLAVILSTSHIKOV Folia zool. hydrobiol. 3.—*D. argonauta*

Suv. (= *kurda* Suv.) p. 60; *dobrovljanskii* Suv. a form of *scrobicolle* Dalm.; *goktschanum* Suv., *armenum* Suv. abb. of *sulcipenne* Küst. p. 61; *striolatum* Kraatz (= *tristriatum* Suv.); *striatiforme* Suv. probably an ab. of *striolatum* Kraatz p. 62; *borodoni* Suv. a var. of *ciscaucasicum* Jac. p. 63; *eucinum* Suv. a var. of *caucasicum* Kraatz p. 64, PLAVILSTSHIKOV Ent. Bl. 27.

Dystus see *Paradystus*.

Ecyrus fasciatus Ham. a good sp. not var. of *dasyceus* Say p. 106, LINSLEY Pan-Pacific Ent. 7.

Epepeotes soembanicus sp. n. Sumba I. p. 66 fig., SCHWARZER Senckenbergiana 13.

Epilysta olivacea sp. n. Philippines p. 76 fig., SCHWARZER t.c.

Estoloderces proletaria sp. n. (with var. n. *vitticollis* p. 3) Brazil p. 2 fig., MELZER Rev. Ent. S. Paulo 1.

Euclea see *Niphonoclea*.

Eupromus ruber larva p. 301 figs., KOJIMA J. Coll. Agric. Imp. Univ. Tokyo 11.

Eutrypanus glaucus sp. n. Brazil p. 72 fig., MELZER Arch. Inst. biol. S. Paulo 4.

Exocentrus setosus characters p. 73, MELZER t.c.—*E. bicolor* var. n. *diversiceps* China p. 259, PIC Bull. Soc. ent. Fr. 1931.—*E. testudineus* sp. n. Japan p. 47, MATSUSHITA Trans. Sapporo N.H. Soc. 12.—*E. explanatidens* sp. n. Kurseong p. 58, PIC Sbornik ent. odd. Nár. Mus. Praze 8 1930.

Fimbria see *Catafimbria*.

Glenea ochraceolineata p. 77, *nobilis* p. 78, spp. n. Borneo figs., SCHWARZER Senckenbergiana 13.

Gnoma boisduvali n. n. for *giraffa* Boisd. nec Schreib.; *zonaria* L. (= *giraffa* Schreib.) p. 198, PLAVILSTSHIKOV Koleopt. Rdsch. 17.

Hemierana n. n. for *Amphionycha* Lec. nec Lesseleuc p. 594, AURIVILLIUS Col. Cat. 74 1923.

Hydraschema pickeli see *Pseudomecas*.

Ischiocentra modesta p. 58, *costa-limai* p. 59, spp. n. Brazil figs., MELZER Arch. Inst. biol. S. Paulo 4.

Leiopus scitulus Germ. (= *Atrypanius multifasciatus* Melz.) p. 9, MELZER Rev. Ent. S. Paulo 1.

Lepturges prolixus sp. n. Brazil p. 69 fig., MELZER Arch. Inst. biol. S. Paulo 4.

Lophopoenopsis subgen. n. see *Lophopoeum*.

Lophopoeum (*Lophopoenopsis* subgen. n.) *singulare* p. 63, *virescens* p. 64, spp. n. Brazil figs., MELZER Arch. Inst. biol. S. Paulo 4.

Lychrosis quadrisignatus sp. n. N. Celebes p. 72 fig., SCHWARZER Senckenbergiana 13.

Lycomimus gen. n., *albocinctus* sp. n. Brazil p. 11 fig., MELZER Rev. Ent. S. Paulo 1.

Melzerella gen. n. p. 139, *lutzi* sp. n. Brazil p. 140 fig., DA COSTA LIMA Rev. Ent. S. Paulo 1.

Mesosa latifasciata sp. n. Formosa p. 44, MATSUSHITA Trans. Sapporo N.H. Soc. 12.—*M. longipennis* larva p. 303, pupa p. 305 figs., KOJIMA J. Coll. Agric. Imp. Univ. Tokyo 11.

Micromallosia distinguished from *Mallosia* p. 37, PIC Misc. ent. 33.

Micromelanauster subgen. n. see *Tibetobia*.

Moneilema crassipes p. 197, *aterrima* p. 198, *mundelli* p. 200, spp. n. Mexico, FISHER Proc. Ent. Soc. Wash. 33.

Monochamus grandis pp. 285–288, *sartor* pp. 289–292, *tesserula* pp. 292–293 early stages figs., KOJIMA J. Coll. Agric. Imp. Univ. Tokyo 11.—*M. urussovii* Fisch. (= *4-maculatus* Mots.); *rosenmülleri* Cederh. status; *pistor* Germ. a good sp.; *sutor* L. (= *alboscutellatus* Mots.); *pistor* ab. *lignator* Kryn. (= *caucasicus* Mots.) p. 117, KOLOSOV Ent. Bl. 27.

Musaria synonymy of *Plavilstshikov* discussed p. 37, PIC Misc. ent. 33.

Mystrocnemis suturalis sp. n. E. Africa p. 212 fig., SCHWARZER Senckenbergiana 13.

Nanohammus griseonotatus sp. n. Japan p. 14, PIC Echange 47.

Nemophas ammiralis sp. n. Admiralty Is. p. 66 fig., SCHWARZER Senckenbergiana 13.

Neopothyne gen. n., *variegata* sp. n. Formosa p. 46 fig., MATSUSHITA Trans. Sapporo N.H. Soc. 12.

Niphona mucronata sp. n. Borneo p. 207 fig., SCHWARZER Senckenbergiana 13.

Niphonoclea n. n. for *Euclea* Newm. nec Hb. p. 247, AURIVILLIUS Col. Cat. 73 1922.—*N. longicollis* sp. n. Banahao p. 69 figs., SCHWARZER Senckenbergiana 13.

Nupserha producta sp. n. Java p. 212 fig., SCHWARZER t.c.

Nyssodrys schmithi p. 70, *lateralis* p. 71, spp. n. Brazil figs., MELZER Arch. Inst. biol. S. Paulo 4.

Oberea amurica an ab. of *vittata* Bles. p. 60, PLAVILSTSHIKOV Ent. Bl. 27.—*O. horiensis* sp. n. Formosa p. 47 fig., MATSUSHITA Trans. Sapporo N.H. Soc. 12.

Ochromima decemmaculata sp. n. Brazil p. 12 fig., MELZER Rev. Ent. S. Paulo 1.

Oncideres aegrota biology pp. 37–41 figs., PINTO DA FONSECA Rev. Ent. S. Paulo 1.

Oreodera fulgurata p. 59, *sexplagiata* p. 60, spp. n. Brazil figs., MELZER Arch. Inst. biol. S. Paulo 4.

Ostodes nubila sp. n. Formosa p. 405, MATSUSHITA Mitt. zool. Mus. Berl. 17.

Ozineus vicinus p. 68, *pauper* p. 69, spp. n. Brazil figs., MELZER Arch. Inst. biol. S. Paulo 4.—*O. tersus* p. 5, *prolixus* p. 7, spp. n. Brazil figs., MELZER Rev. Ent. S. Paulo 1.

Paradystus n. n. for *Dystus* Pasc. nec Stål p. 516, AURIVILLIUS Col. Cat. 74 1923.

Paraglenea fortunei larva p. 306 figs., KOJIMA J. Coll. Agric. Imp. Univ. Tokyo 11.

Phelipara vittula, confusa spp. n. Borneo p. 209 figs., SCHWARZER Senckenbergiana 13.

Phrynetoides minor sp. n. Belgian Congo p. 201 fig., SCHWARZER t.c.

Phytoecia alepensis sp. n. Syria p. 2; *kurdistanica* var. n. *innoticeps* Caucasia p. 10, Pic Echange 47.—*P. infernalis* see *Thyestilla gebleri* ab. *funebri*.

Plocia sybroides, ochraceomaculata p. 73, *subfasciata* p. 75, spp. n. Philippines figs., SCHWARZER Senckenbergiana 13.

Pogonocherus food-plants pp. 105–106, HOPPING Pan-Pacific Ent. 7.—*P. parvulus* Lec. (= *salicicola* Csy.) a good sp. p. 106, LINSLEY Pan-Pacific Ent. 7.—*P. fasciculatus* subsp. n. *pullus* Japan in pp. 376–378, MATSUSHITA Insect Wld. 35.—*P. perroudi* Muls. (= var. *vaulogerii* Pic) p. 199, PLAVILSTSHIKOV Koleopt. Rdsch. 17.

Probatimimus melzeri sp. n. Rio Grande p. 210 fig., SCHWARZER Senckenbergiana 13.

Psacotheta hiralis larva p. 281, pupa p. 284 figs., KOJIMA J. Coll. Agric. Imp. Univ. Tokyo 11.

Pseudeuclea gen. n. p. 205, *cribrosa* sp. n. Borneo p. 206 figs., SCHWARZER Senckenbergiana 13.

Pseudocalamobius taiwanensis sp. n. Formosa p. 404, MATSUSHITA Mitt. zool. Mus. Berl. 17.

Pseudocriopsis gen. n. p. 196, *modesta* sp. n. Brazil p. 197 fig., MELZER Rev. Ent. S. Paulo 1.

Pseudomecas pickeli Melz. from *Hydraschema* p. 199, MELZER t.c.

Pterolophia cristipennis sp. n. Formosa p. 403, MATSUSHITA Mitt. zool. Mus. Berl. 17.—*P. multinotata* sp. n. Corea p. 1, Pic Echange 47.—*P. gardneri* p. 71, *occidentalis* p. 72 Dehra Dun, *circulata* Java p. 207, spp. n. figs., SCHWARZER Senckenbergiana 13.

Rucentra gen. n. p. 198, *dammermani* (type) (with subspp. n. *posticata, melancholica* p. 199) Java, *v-signata* Luzon p. 200, spp. n. figs., SCHWARZER t.c.

Sangaris zikani p. 75, *condei, viridipennis* p. 76, spp. n. Brazil figs., MELZER Arch. Inst. biol. S. Paulo 4.

Saperda punctata ab. n. *praeapicalis* Caucasus; *octomaculata* ab. n. *incana*;

interrupta ab. n. *subcandida*; *decempunctata* ab. n. *pistazina* p. 87; *laterimaculata* abb. n. *victori*, *transversefasciata* Manchuria, *bicexcisa* Siberia p. 88 figs., PĽAVILSTSHIKOV Ent. NachrBl. 5.—*S. populnea* biology p. 419, SPAČEK Int. ent. Z., Guben 24.

Sybra bisignata sp. n. Java p. 208 fig., SCHWARZER Senckenbergiana 13.—*S. maculiclunis* sp. n. Formosa p. 404, MATSUSHITA Mitt. zool. Mus. Berl. 17.

Tetralicia n. n. for *Alicia* Thoms. nec Johns. p. 588, AURIVILLIUS Col. Cat. 74 1923.

Thyestes see *Thyestilla*.

Thyestilla n. n. for *Thyestes* Thoms. nec Eichw. p. 491, AURIVILLIUS Col. Cat. 74 1923.—*T. gebleri* Fald. (= *pubescens* Thoms.); ab. *funebis* Gah. (= *Phytoecia infernalis* Pic) p. 203, PĽAVILSTSHIKOV Koleopt. Rdsh. 17.

Tibetobia key p. 48, (*Micromelanauster* subgen. n. for *bowringi* White, *argentifer* Pic, *beryllinus* Hope) p. 49, Pic Ent. NachrBl. 5.

Tmesisternus gabrieli sp. n. New Guinea p. 69 fig., SCHWARZER Senckenbergiana 13.—*T. stolatus* sp. n. Formosa p. 45 fig., MATSUSHITA Trans. Sapporo N.H. Soc. 12.

Trypanidius proximus sp. n. Brazil p. 9 fig., MELZER Rev. Ent. S. Paulo 1.

Tyrinthia suturalis sp. n. Brazil p. 198 fig., MELZER Rev. Ent. S. Paulo 1.

Xenofrea apicalis sp. n. Brazil p. 3 fig., MELZER Rev. Ent. S. Paulo 1.

Xenophamnus gen. n., *bimaculatus* (type) p. 204, *nebulosus* p. 205, spp. n. Formosa figs., SCHWARZER Senckenbergiana 13.

Zotale trivittata sp. n. Tonkin p. 14, Pic M  l. exot.-ent. 57.

BRUCHIDAE (LARIIDAE).

Bruchidius pygmaeus morphology, biology pp. 249–256 figs., DEL GIUDICE Boll. Lab. Zool. Portici 25.

Bruchus rufimanus seasonal history p. 223 [in Japanese], KAMITO & SAKAI

Oyo-Dobuts. Zasshi 3.—*B. dispar* var. n. *atricornis* England p. 1, Pic Echange 47.—*B. subaenescens* sp. n. Brazil p. 139, Pic Bull. Soc. linn. Lyon 10.—*B. irsectus* cocoon pp. 162–166 figs., ROMAN Bull. Soc. ent. Fr. 1931.—*B. albopubens* Sudan p. 26 57, *semiflabellatus*, *friburgoensis* p. 34, *subdiversicolor* (with var. n. *innigripes*) p. 35, *subimmaculatus*, *gregorioi* p. 36 Brazil, *elnairensis* Sudan p. 35 58, spp. n., Pic M  l. exot.-ent.—*B. (Laria) pisi* bionomics pp. 98–114, LASAROW Mitt. bulgar. ent. Ges. Sofia 6.—*B. sharpianus* (*longulus* Sharp) see *Dahlibruchus*.

Cosmobruchus gen. n., *russelli* sp. n. Mexico p. 41, BRIDWELL Proc. Ent. Soc. Wash. 33.

Dahlibruchus gen. n. for *Bruchus sharpianus* n. n. for *longulus* Sharp nec Kraatz p. 40; *conradti* sp. n. Mexico p. 41, BRIDWELL t.c.

Gibbobruchus ornatus, *atromaculatus* p. 24, *minor*, *x-litura* p. 25, spp. n. Brazil, Pic M  l. exot.-ent. 57.

Laria pisi see *Bruchus*.

Pachymerus Sch  n. see *Pseudopachymerus*.

Pseudopachymerus n. n. for *Pachymerus* Sch  nh. nec Thnb., type *brasiliensis* Thnb. p. 10, Pic Col. Cat. 55 1913.—*P.* biology of some Brazilian spp. pp. 417–422 figs., BONDAR Rev. Ent. S. Paulo 1.—*P. multinotatus*, *nigro-notatus* spp. n. Brazil p. 24, Pic M  l. exot.-ent. 57.

Spermophagus sericeus further description, in Britain p. 33, DONISTHORPE Ent. Rec. 43.—*S. multisignatus* var. n. *inlineolatus* Tanganyika p. 26, Pic M  l. exot.-ent. 57.

Urodon baudii subsp. n. *farsetiae* Hoggar p. 117, DE PETERIMHOFF M  m. Soc. Hist. nat. Afr. N. 2.

Phytophaga.

Biological notes on a Chrysomelid pest of bamboo, CHEN Lingnan Sci. J. 7 pp. 515–528, 1 pl.

Some Chrysomelids of Sweden, GAUNTZ Ent. Tidskr. 51 1930 pp. 259–263.

List of Chrysomelidae collected in Angola, LABOISSIERE Rev. suisse Zool. 38 pp. 405-418, 6 figs.

Bionomics and comparative morphology of early stages of certain Chrysomelidae, PATERSON Proc. Zool. Soc. Lond. 1931 pp. 879-949, 3 pls. 30 figs.

DONACIIDAE.

Pseudodonacia Reitt. a good genus p. 117, KOLOSSOV Ent. Bl. 27.

MEGALOPIDAE.

Poecilomorpha dollmani sp. n. Rhodesia p. 555 fig., BRYANT Ann. Mag. N.H. (10) 7.

Spondylia key to African spp. p. 547, *clytoides* p. 549, *pubicollis* p. 553 Rhodesia, *bicolor* Tanganyika p. 551, *lineata* Uganda p. 555, spp. n. figs., BRYANT t.c.

ORSODACNIDAE.

Orsodacna cerasi feeding habits p. 95, POTTS North-Western Nat., Arbroath 6.

CRIOCERIDAE.

Bradylema sellata Baly (= *elisabetha* Hz.); *nigrifrons* f. n. *discosignata* S. Africa p. 181; *montana* sp. n. Madagascar p. 182, HEINZE Wien. ent. Ztg. 48.

Crioceris viridimicans Natal p. 176, *suturata* (with f. n. *insuturata*) E. Africa p. 178, spp. n. figs., HEINZE t.c.—*C. asparagi* alimentary canal pp. 396-405 figs., DAVIDSON Ohio J. Sci. 31.—*C. lilii* biology pp. 193-198, LATASTE Bull. Soc. zool. Fr., Paris 56.

Elisabethana tricolor f. n. *signaticollis* Uganda p. 175, HEINZE Wien. ent. Ztg. 48.

Hapsidolema punctatissima Sierra Leone p. 208, *zuluana* Zululand p. 209, *aeneicolora* Natal p. 211 spp. n. figs., HEINZE t.c.

Incisolema cylindricollis Lac. (= *lugubris* Clav.) f. n. *3-lineata* Bottego p. 212, HEINZE t.c.

Lema costipennis S. Nigeria p. 184, *pontoana* S. Africa p. 185, *bantuana* p. 188, *reticulata* p. 190, *dollmani* p. 191

Rhodesia, *yalaensis* E. Africa p. 193, *umbrissignata* Mashonaland p. 196, *lulabensis* Lualaba R. p. 197, *turbata* Nyasaland (with ff. n. *conjunctella* E. Africa p. 198, *manca* N.W. Rhodesia). *ornans* Congo p. 199, *nimiocornis* Kamerun p. 200, *flavoapicalis* E. Africa p. 201, *korschefskyi* Uganda p. 202, *zulu* Zululand p. 203 spp. n.; *incomparabilis* f. n. *comma* Rhodesia p. 187; *4-fasciata* f. n. *pallidicollis* Blukwa; *biapensis* Ws. (= *atrolateralis* Pic) p. 195; *affinis* Clark (= *rufoannulata* Pic p. 205, *rufiventris* Pic p. 206), HEINZE t.c.—*L. cyanella*, *melanopus* morphology, biology pp. 190-203 figs., MESNIL Ann. Epiphyt. 16.—*L. oryzae* sp. n. Japan p. 155, KUWAYAMA Ins. mats. 5.—*L.* notes on some of Pic's spp. from Madagascar, *uniannulata*, *diegosa* spp. n. Madagascar p. 40, Pto Ent. NachrBl. 5.—*L. semiopaca* sp. n. Tonkin p. 139, Pto Bull. Soc. linn. Lyon 10.—*L. bimpressipennis*, *tanamarivana* Madagascar p. 20, *viridisuturalis* Abyssinia p. 21 spp. n.; *rubricollis* var. n. *brevelineata* Gabun p. 20, Pto Mél. exot.-ent. 57.

Lilioceris fasciata f. n. *testaceoapicalis* E. Africa p. 180, HEINZE Wien. ent. Ztg. 48.—*L. (Metopocerus subgen. n.) costata* sp. n. Mexico p. 53, HEINZE Ent. NachrBl. 5.

Metopocerus subgen. n. see *Lilioceris*.

Xoidolema gen. n., rhodesiana sp. n. Rhodesia p. 206 figs., HEINZE Wien. ent. Ztg. 48.

CLYTRIDAE.

Antipa tonkinea sp. n. Tonkin p. 139, Pto Bull. Soc. linn. Lyon 10.—*A. perrisi* ♂; *lefevrei* Pic not a synonym of *perrisi* Desbr. p. 61, Pto Bull. Soc. ent. Fr. 1931.

Coptocephala sefrensis new to Morocco p. 61, Pto t.c.

Diapromorpha monardi, minuta spp. n. Angola p. 424, Pto Rev. suisse Zool. 38.

Labidostomis Mediterranean spp. pp. 107-130, characters p. 112, key p. 114, *andreinii* Tripolitania p. 121, *bolivari* Tangier p. 128 spp. n. figs., DE LA ESCALERA Eos 7.

CRYPTOCEPHALIDAE.

Coenobius helferi, *punctatus* spp. n. Tenasserim p. 59, PIC Sbornik ent. odd. Nár. Mus. Praha 8 1930.—*C. schimperi* sp. n. Abyssinia p. 108, PIC Bull. Mus. Paris (2) 3.—*C. basipennis* further description p. 263, PIC Bull. Soc. ent. Fr. 1931.

Cryptocephalus unimaculatus [sic] sp. n. Congo p. 263, PIC t.c.—*C. semiargenteus* subsp. n. *mujunkumensis* Syr Daria p. 79, LEBEDEV Ent. NachrBl. 5.—*C. 4-undulatus* var. n. *potensis* Angola p. 426, PIC Rev. suisse Zool. 38.—*C. loreyi* var. n. *medioculatus* France p. 10, PIC Echange 47.

Isnus signatus sp. n. Abyssinia p. 109, PIC Bull. Mus. Paris (2) 3.

Melixanthus monardi sp. n. Angola p. 426, PIC Rev. suisse Zool. 38.

EUMOLPIDAE.

Colaspis brunnea biology pp. 235-240, BIGGER Trans. Illinois Acad. Sci. 24.

Demotina key to Fijian spp. p. 355, *veitchi* p. 356, *dissimilis* p. 358, *vitiensis* p. 359, *fulva* p. 361, *evansi* p. 362, *obscurata* p. 363, *albonotata* p. 364, spp. n. Fiji figs., BRYANT Ann. Mag. N.H. (10) 8.

Eka gen. n., *nigra* sp. n. Seychelles p. 244 fig., MAULIK Trans. Linn. Soc. Lond. (2) Zool. 19.

Keeta gen. n. p. 245, *aldabrana* (type) p. 246, *fryeri* p. 247, spp. n. Seychelles fig., MAULIK t.c.

Malegia atritarsis sp. n. Angola p. 426, PIC Rev. suisse Zool. 38.

Myochrous movallus sp. n. S. Dakota p. 148, JOHNSON Canad. Ent. 63.

Nodostoma pectorale China 22, *longipenne*, *coomani* Tonkin, *subapicale* S. India p. 23, spp. n., PIC Mél. exot.-ent. 57.—*N. 4-maculatum* sp. n. Tonkin p. 27, PIC Bull. Soc. linn. Lyon 10.

Rhembastus pomorum sp. n. Transvaal p. 253 figs., BRYANT Bull. Ent. Res. 22.

Rhyparida seychellensis p. 242, *scotti* p. 243, spp. n. Seychelles figs., MAULIK Trans. Linn. Soc. Lond. (2) Zool. 19.

Rhyparidula insularis sp. n. Seychelles p. 248 fig., MAULIK t.c.

Scelodonta vitis sp. n. Natal p. 254 fig., BRYANT Bull. Ent. Res. 22.

CHRYSOMELIDAE.

Allorina see *Chrysochloa* (*Allorinula*).

Allorinula subgen. n. n. see *Chrysochloa*.

Chrysochloa (*Allorinula* subgen. n. n. for *Allorina* Ws. nec Burm.) p. 98, WEISE Col. Cat. 68 1916.

Chrysomela fastuosa ab. n. *umbrata* Silesia p. 16, GABRIEL in KOLBE Z. Ent. 17.—*C. analis* L. from *Hydrothassa* p. 19, MADER Ent. Anz. 11.

Colaphellus n. n. for *Colaphus* Redt. nec Chev. p. 113, WEISE Col. Cat. 68 1916.

Colaphus see *Colaphellus*.

Euryope terminalis embryological development pp. 344-371 figs., PATERSON S. Afr. J. Sci. 28.

Gastroidea viridula ab. n. *cyanicollis* Palaearctic p. 20, MADER Ent. Anz. 11.

Gastrolina key p. 129, *tonkinea* sp. n. Tonkin p. 128 fig., CHEN Bull. Soc. ent. Fr. 1931.

Hydrothassa analis see *Chrysomela*.

Leptinotarsa decemlineata morphology, biology pp. 309-390 figs., FEYTAUD Ann. Epiphyt. 16.

Lina scripta biology pp. 107-109, GUTHRIE Pan-Pacific Ent. 7.

Melasoma seximpressa sp. n. Laos p. 127, CHEN Bull. Soc. ent. Fr. 1931.

Paropsides bouvieri sp. n. Tonkin p. 110, CHEN Bull. Mus. Paris (2) 3.

Phaedon cochleariae biology 15 pp. fig., ZOLK Tartu Ulikooli Entom.-katsejaama teadaand no. 7 1928.—*P. vancouverensis* Hat. distinct sp.; *punctatus* Hat., *vandykei* Hat. var. of *prasinella* Lec.; *dietrichi* Hat. var. of *viridis* Melsh. (= *aeruginosus* Suffr., *microreticulatus* Hat.); *viridis* var. n. *oklahomensis* p. 103; *niger* var. n. *planus* p. 104 U.S.A., HATCH Pan-Pacific Ent. 7.

Phytodecta lesnei Yunnan, *coccinella* Tonkin, spp. n. p. 111, CHEN Bull. Mus. Paris (2) 3.

Sominella discussion of status, re-description, key pp. 152-161 fig., GOECKE Ent. Bl. 27.

Suinzona gen. n., *laboissierei* sp. n. Indo-China p. 130 fig., CHEN Bull. Soc. ent. Fr. 1931.

Timarcha goettingensis var. n. *semirufa* Alsace p. 2, PIC Echange 47.

HALTICIDAE.

Aphthona kuntzei sp. n. Dalmatia p. 116 figs., ROUBAL Coleopt. Centralbl., Berlin 5.

Bikasha gen. n. p. 256, *tenuipunctata* (type) p. 257, *fortipunctata* p. 258, *minor* p. 259, spp. n. Seychelles figs., MAULIK Trans. Linn. Soc. Lond. (2) Zool. 19.

Chaetocnema mahensis p. 250, *krishna* p. 251, *sundara* p. 252, spp. n. Seychelles figs., MAULIK t.c.—*C. aridula* morphology, biology pp. 204-207 figs., MESNIL Ann. Epiphyt. 16.

Cladocera nigrovittata larva, cocoon pp. 127-131 figs., MAULIK Proc. Zool. Soc. Lond. 1931.

Disonycha puncticollis Lec., *punctigera* Lec. rr. not synonyms of *quinquevittata* Say (= *pluriligata* Lec.); *q.* var. *pura* Lec. (= *capitata* Jac.) p. 279; *asteris* Schffr. a var. of *latifrons* Schffr.; *brevicornis* p. 281, *nigriventris* p. 282, *neglecta* p. 283, *laticollis*, *punctipennis* p. 284, *stenosticha* p. 285 spp. n. U.S.A., SCHAEFFER J. N.Y. Ent. Soc. 39.—*D. dorsata* var. n. *flavolimbata* Honduras; *ovata* sp. n. Salvador p. 81 figs., BLAKE Bull. Brooklyn Ent. Soc. 26.

Homophoea aequinoctialis notes on allied spp. p. 76, BLAKE Bull. Brooklyn Ent. Soc. 26.

Longitarsus gardineri sp. n. Providence I. p. 259, MAULIK Trans. Linn. Soc. Lond. (2) Zool. 19.—*L. crotalariae* sp. n. Transvaal p. 255 fig., BRYANT Bull. Ent. Res. 22.

Megistops dissita sp. n. Haiti p. 81 fig., BLAKE Bull. Brooklyn Ent. Soc. 26.

Notomela fulvicollis sp. n. Natal, Transvaal p. 255 fig., BRYANT Bull. Ent. Res. 22.

Pratima gen. n., *variabilis* (type) p. 253, *costata* p. 255, spp. n. Seychelles figs., MAULIK Trans. Linn. Soc. Lond. (2) Zool. 19.

Throscoryssa citri biology pp. 5-10 figs., CLAUSEN Tech. Bull. U.S. Dept. Agric. 252.

GALERUCIDAE.

Galerucini collected in Mozambique by P. Lesne 1928-29, LABOISSIÈRE Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 48 55 pp. 20 figs.

Catalogue of Galerucinae, WEISE Col. Cat. 78 1924 225 pp.

Aenidea nigromarginata Jac. from *Platyzantha* p. 36 fig., LABOISSIÈRE Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 48.

Alaotra tenuicornis sp. n. Madagascar p. 33, LABOISSIÈRE Ent. Bl. 27.

Anomalonyx bifasciatus sp. n. Togo p. 24 fig., LABOISSIÈRE t.c.

Apophyllia geniculata p. 21, *savioi* p. 22 China, *ciliaticornis* India p. 21, spp. n., PIC Mél. exot.-ent. 57.

Asbecesta apicalis Ivory Coast, Abyssinia, Nigeria p. 47, *occipitalis* Togo, *carinata* Togo, Ivory Coast p. 48, spp. n., LABOISSIÈRE Wien. ent. Ztg. 48.—*A. monardi* sp. n. Angola p. 408 fig., LABOISSIÈRE Rev. suisse Zool. 38.—*A. lesnei* sp. n. Mozambique p. 11 figs., LABOISSIÈRE Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 48.

Barombia characters distinguishing from *Monolepta* p. 43, *gregaria* p. 51, *herbacea*, *sternalis* p. 52, *pakhassana* p. 53, *lesnei* p. 54, spp. n. Mozambique figs., LABOISSIÈRE t.c.—*B. nigrofulva* sp. n. Transvaal p. 34, LABOISSIÈRE Ent. Bl. 27.—*B.* see *Barombiella*.

Barombiella n. n. for *Barombia* Jac. nec Karsch (Orth.) p. 416, LABOISSIÈRE Rev. suisse Zool. 38.

Candezea costatipennis sp. n. Angola p. 412 fig., LABOISSIÈRE t.c.—*C. horni* p. 32, *atripennis* p. 33, spp. n. Kamerun, LABOISSIÈRE Ent. Bl. 27.—*C.* characters distinguishing from *Monolepta* p. 43, *nigra* All. from *Luperodes* p. 50, LABOISSIÈRE Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 48.

Cerochroa verticalis sp. n. Kamerun p. 42, LABOISSIÈRE Wien. ent. Ztg. 48.

Cerotoma trifurcata bionomics 25 pp. figs., EDDY & NETTLES Bull. S. Carolina Agric. Expt. Sta. 265 1930.

Chimporia gen. n. p. 413, *monardi* sp. n. Angola p. 415 fig., LABOISSIÈRE Rev. suisse Zool. 38.

Clitena fulva see *Clitenosomia*.

Clitenosomia gen. n. for *Clitena fulva* Laboiss. p. 43, *maculicollis* sp. n. Togo p. 44 fig., LABOISSIÈRE Wien. ent. Ztg. 48.

Coraia subcyanescens from *Trirrhada* p. 35 fig., BLAKE Proc. U.S. Nat. Mus. 79 no. 2868.

Deryidea gen. n. for *Trirrhada brevicollis* LeC. (type) p. 32 and *ornata* Schaeff. p. 34 figs., BLAKE t.c.

Diabrotica duodecimpunctata sex differentiation pp. 1077-1079, SMITH & ALLEN J. Econ. Ent. 24.—*D. vittata* wintering habits pp. 486-490, HASEMAN J. Econ. Ent. 24.

Doryda nigripennis, *tarsalis* status; *fraterna* sp. n. Yunnan p. 142 fig., LABOISSIÈRE Ann. Soc. ent. Fr. 100.

Dorydomorpha gen. n. p. 144, *souyrisi* (type) p. 145, *fulva*, *nigripennis* p. 146, *variabilis* p. 147 Yunnan, *pilifrons* p. 148, *frontalis* p. 149 Tonkin, spp. n. fig., LABOISSIÈRE t.c.

Dyolania gen. n. p. 51, *antennalis* sp. n. Togo, Belgian Congo p. 52, LABOISSIÈRE Wien. ent. Ztg. 48.

Ergana nigrilabris p. 54, *apicicornis* p. 55, spp. n. Togo, LABOISSIÈRE t.c.—*E. heritigi* sp. n. Angola p. 406 fig., LABOISSIÈRE Rev. suisse Zool. 38.

Erythrobapta zambeziana sp. n. Zambesi p. 9 fig., LABOISSIÈRE Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 48.

Estcourtiana bifasciata Jac. (= *vittata* Laboiss.) p. 20; *quadrimaculata* sp. n. Mozambique p. 21 fig., LABOISSIÈRE t.c.

Eubeiratia gen. n. p. 24, *lesnei* sp. n. Mozambique p. 25 fig., LABOISSIÈRE t.c.

Exosoma alternata sp. n. Mozambique p. 17, LABOISSIÈRE t.c.—*E. lutea* sp. n. E. Africa p. 50; *pallida* in Togo p. 51.

LABOISSIÈRE Wien. ent. Ztg. 48.—*E. thoracica* var. n. *grossepunctata* Bulgaria p. 454, ROUBAL Ent. Anz. 11.

Falsoplityxantha diversicornis sp. n. Asia Minor p. 22, Pto Mél. exot.-ent. 57.

Galerucella lineatipes sp. n. Japan p. 255 [English description], MATSUMURA Insect Wld., Gifu 10 1916.—*G. viburni*, morphology, biology pp. 55-79 [in Russian] figs., ZORIN Bull. Inst. Contr. Pests Dis. Leningrad 1.

Hemixantha lesnei p. 41, *mozambica* p. 42, spp. n. Mozambique fig., LABOISSIÈRE Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 48.

Huillania gibbicollis p. 30, *bifasciata* p. 32, spp. n. Mozambique fig., LABOISSIÈRE t.c.

Hylaspes facialis p. 136, *tibialis* p. 138, *tenuicornis* Yunnan, *nigricollis* p. 140, *duporti* p. 138 Tonkin, spp. n. figs., LABOISSIÈRE Ann. ent. Soc. Fr. 100.

Hyperacantha bifossulata sp. n. Uganda p. 45; *insignita* var. n. *gloriosa* Madagascar p. 47, LABOISSIÈRE Wien. ent. Ztg. 48.

Kanahirphaga gen. n. p. 37, *costulata* sp. n. Mozambique p. 38 fig., LABOISSIÈRE Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 48.

Lesnella gen. n. p. 28, *fasciata* sp. n. Mozambique p. 29 fig., LABOISSIÈRE t.c.

Lochmaea capreae reactions of nervous system pp. 233-240 fig., KOZHANTSCHKOV Bull. Plant Prot. 3.

Luperodes peryensis sp. n. Mozambique p. 26 fig., LABOISSIÈRE Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 48.—*L. artificiosus* sp. n. Sahara p. 111 fig., DE PEYERIMHOFF Mém. Soc. Hist. nat. Afr. N. 2.—*L. nigra* see *Candezea*.

Malacosoma pusilla see *Sesselia*.

Megalognatha nigrocastanea sp. n. Zambesi p. 13; *bryanti* ♀ p. 15 figs., LABOISSIÈRE Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 48.

Microexosoma gen. n. p. 55, *capensis* sp. n. Cape of Good Hope p. 56 fig., LABOISSIÈRE Wien. ent. Ztg. 48.

Monolepta characters distinguishing
Barombia, Candezea p. 43, *melanoceta*
 p. 44, *rudipennis* p. 46, *lesnei* p. 47,
fissicollis p. 48 spp. n. Mozambique;
poriensis further description p. 47 figs.,
 LABOISSIÈRE Mem. Estud. Mus. zool.
 Univ. Coimbra (1) no. 48.—*M. missis*
 n. n. for *kivuensis* Lab. nec Weise p. 409;
pulvofasciata p. 410, *apiciventris* p. 411,
 spp. n. Angola fig., LABOISSIÈRE Rev.
 suisse Zool. 38.—*M. munroi* sp. n.
 Transvaal p. 256 fig., BRYANT Bull. Ent.
 Res. 22.—*M. circumdata*, *podagrica*
 Kamerun p. 30, *togoensis* p. 31, *punctata*
 p. 32 Togo, spp. n., LABOISSIÈRE Ent.
 Bl. 27.

Oides decempunctata Billb. (= *Solano-
 phila gigantea* Roub.) p. 36, ROUBAL
 Ent. NachrBl. 5.

Ootheca apicicornis p. 53, *costulata*
 p. 54, spp. n. Kamerun, LABOISSIÈRE
 Wien. ent. Ztg. 48.—*O. punctata* sp. n.
 Mozambique p. 23 fig., LABOISSIÈRE
 Mem. Estud. Mus. zool. Univ. Coimbra
 (1) no. 48.

Platyxantha trichroa p. 33, *verticalis*
 p. 35, spp. n. Mozambique figs.,
 LABOISSIÈRE t.c.—*P. calabariensis* p. 25,
ruficollis Togo, *pallida* p. 27, *dichroa*
 p. 28 Kamerun, spp. n., LABOISSIÈRE
 Ent. Bl. 27.—*P. angolensis* p. 417,
borlei p. 418, spp. n. Angola fig.,
 LABOISSIÈRE Rev. suisse Zool. 38.—*P.
 facialis* see *Protocoelocrania*; *nigro-
 marginata* see *Aenidea*.

Protocoelocrania gen. n. for *Platy-
 xantha facialis* Jac. p. 28 fig., LABOIS-
 SIÈRE Ent. Bl. 27.

Rhaphidopalpa foveicollis Luc. (= *africana* Wse.) p. 7, LABOISSIÈRE Mem.
 Estud. Mus. zool. Univ. Coimbra (1)
 no. 48.

Sesselia gen. n. for *Malacosoma pusilla*
 Gerst. p. 18 fig., LABOISSIÈRE t.c.

Spilonota see *Spilonotula*.

Spilonotula n. n. for *Spilonota* Ws.
 p. 23, WEISE Col. Cat. 78 1924.

Spitiella gen. n. p. 150, *auriculata*
 sp. n. India p. 151 fig., LABOISSIÈRE
 Ann. Soc. ent. Fr. 100.

Stethidea maculata p. 133, *fulva* p. 135,
 spp. n. Tonkin figs., LABOISSIÈRE t.c.

Trichidea see *Trichobalya*.

Trichobalya n. n. for *Trichidea* Baly
 nec Haan p. 152, WEISE Col. Cat. 78
 1924.

Trirrhabda revision of spp. N. of
 Mexico 36 pp., key p. 9, *adela* p. 14,
borealis p. 16 (with var. n. *indigoptera*),
neoscotiae p. 17, *viridicyanea* p. 19,
pilosa p. 20, *confusa* p. 27, *serico-
 trachyla* p. 28, spp. n. N. America, figs.,
 BLAKE Proc. U.S. Nat. Mus. 79 no.
 2868.—*T. brevicollis*, *ornata* see *Derop-
 idea*; *subcyanescens* see *Coraia*.

HISPIDAE.

Structure of larvae of Hispine
 beetles, MAULIK Proc. Zool. Soc. Lond.
 1931 pp. 1137–1162, 16 figs.

Systematic notes on African Hispids
 from Belgian Museum, UHMANN Bull.
 Mus. Hist. nat. Belg. 7 no. 10 pp. 1–10,
 2 figs.

Hispids of the Zool. Museum of
 Hamburg, UHMANN Deuts. ent. Z. 1930
 pp. 161–175, 10 figs.

Hispids from Sumatra, UHMANN
 Misc. zool. sumat. 54 4 pp.

Hispidae from the Philippines,
 UHMANN N. Beitr. syst. Insektenk. 5
 pp. 1–15, 34–48, 4 figs., 1 map.

Hispids of the Dresden Museum,
 UHMANN Stett. ent. Z. 92 pp. 219–226,
 4 figs.

Catalogue of African Hispids in
 Berlin Zool. Mus., UHMANN Mitt. zool.
 Mus. Berl. 17 pp. 836–891.

Agonia bakeri p. 45, *tayabasensis* p. 47,
 spp. n. Philippines, UHMANN N. Beitr.
 syst. Insektenk. 5.—*A. kuntzeni* sp. n.
 Kamerun p. 849, UHMANN Mitt. zool.
 Mus. Berl. 17.—*A. serena* see *Mona-
 gonias*.

Anoplitis replexa Surinam p. 59,
maculata Brazil p. 60, spp. n., UHMANN
 Boll. Soc. ent. ital. 63.—*A. notaticeps*
 sp. n. (with var. n. *prolongata* p. 346)
 Peru p. 345, PRC Rev. Soc. ent. argent.
 3.

Baliosus incisus sp. n. Brazil p. 346,
 PRC t.c.

Bötryonopa kleinei sp. n. Borneo p. 178; UHMANN Zool. Meded. 13 1930.—*B. minor* sp. n. Borneo p. 173 figs., UHMANN Deuts. ent. Z. 1930.—*B. angustata* p. 221, *schultzei* p. 222, spp. n. Mindanao figs., UHMANN Stett. ent. Z. 92.—*B. mindoroica* p. 3, *schultzei* p. 4, spp. n. Philippines, UHMANN N. Beitr. syst. Insektenk. 5.

Bronthispa angulosa sp. n. Philippines p. 35 fig., UHMANN t.c.

Callispa fallax p. 8, *pictarsis* p. 9, *palawanica* p. 10, *spaethi* p. 11, *raffaelli* p. 12, *philippinica*, *fatua* p. 14, *boettcheri* p. 15 spp. n.; *flavescens* ab. n. *arcuata* p. 10 Philippines, UHMANN t.c.—*C. flaveola* sp. n. Sumatra p. 193, UHMANN Zool. Meded. 14.—*C. intermedia* p. 838, *kuntzeni* p. 839, spp. n. Kamerun, UHMANN Mitt. zool. Mus. Berl. 17.—*C. schoutedeni* p. 253, *similis* p. 254, spp. n. Belgian Congo, UHMANN Rev. Zool. Bot. afr. 20.

Cassidispa simplex p. 163, *reducta* p. 164, spp. n. Belgian Congo, UHMANN op. cit. 21.

Cephalolia minasensis, *viridis* Brazil p. 33, *lojaensis* Ecuador p. 34, spp. n., PIC MÉL. exot.-ent. 58.

Chalepus scutellaris Jamaica p. 14, *aurantiacicollis* Peru, *germaini* p. 15, *subfasciatus* Bolivia, *robusticornis*, *brevapicalis*, *goyasensis* p. 18, *submetallicus*, *nigrithorax* p. 15, *obidosensis* Brazil, *testaceiceps* Guiana p. 16, spp. n., PIC op. cit. 57.—*C. bicoloriceps* Peru, *wagneri* Argentina p. 343, *donckieri* Colombia, *venezuelensis* Venezuela p. 344, spp. n., PIC Rev. Soc. ent. argent. 3.—*C. titschacki* Ecuador, *scutellatus* Argentina, spp. n. p. 162, UHMANN Deuts. ent. Z. 1930.

Dactylispa aureopilosa E. Africa p. 167, *natalensis* Natal p. 168, spp. n. fig., UHMANN t.c.—*D. cincta* further description p. 179 fig., UHMANN Zool. Meded. 13 1930.—*D. javaensis* sp. n. Java p. 1153 figs., MAULIK Proc. Zool. Soc. Lond. 1931.—*D. tenella* Pér. (= *notha* Ws.) p. 3; *pubicollis* subsp. n. *maynei* Africa; *aculeata* Klug (= *laticollis* Chap.) p. 5, UHMANN Bull. Mus. Hist. nat. Belg. 7 no. 10.—*D. pubicollis* synonymy p. 84, subsp. n. *maynei* Kamerun p. 85; *lentoides* p. 80, *d'orchymonti* (also Kamerun) p. 81 E. Africa, *burgeoni* p. 86, *valida* (also

W. Africa) p. 87 Belgian Congo, *normalis* p. 148, *varicornis* p. 150 Kamerun, Belgian Congo, *spinulifera* Assinie p. 149, *cervicornu* Spanish Guinea, Belgian Congo p. 153 spp. n.; *aculeata* Klug (= *laticollis* Chap.) p. 150, UHMANN Rev. Zool. Bot. afr. 21.—*D. notha* Ws. (= *tenella* Pér.) p. 860; *collarti* sp. n. Congo p. 872, UHMANN Mitt. zool. Mus. Berl. 17.

Hispa exquisita sp. n. Natal p. 877, UHMANN t.c.—*H. alutacea* p. 169, *gebieni* p. 170, spp. n. E. Africa fig., UHMANN Deuts. ent. Z. 1930.—*H. fabricii* further description p. 179, UHMANN Zool. Meded. 13 1930.

Hispodonta samarica sp. n. Samar I. p. 6, UHMANN N. Beitr. syst. Insektenk. 5.

Lasiochila supplement to catalogue p. 193, UHMANN Zool. Meded. 14.—*L. bakeri* sp. n. Philippines p. 4, UHMANN N. Beitr. syst. Insektenk. 5.

Lepthispa similis, *ruficollis* spp. n. Belgian Congo p. 255, UHMANN Rev. Zool. Bot. afr. 20.

Monagonia gen. n. for *Agonia serena* Ws. p. 2, UHMANN Misc. zool. sumat. 54.

Octhispa dentata sp. n. Brazil p. 165, UHMANN Deuts. ent. Z. 1930.

Oncocephala polilloana sp. n. Philippines p. 224 fig., UHMANN Stett. ent. Z. 92.

Penthispa gebieni sp. n. Costa Rica p. 166 fig., UHMANN Deuts. ent. Z. 1930.

Platypria maculata sp. n. Nyasaland p. 172 fig., UHMANN t.c.

Pleurispella gen. n., *weisei* sp. n. Belgian Congo p. 159, UHMANN Rev. Zool. Bot. afr. 21.

Prionispa mauliki sp. n. Philippines p. 37, UHMANN N. Beitr. syst. Insektenk. 5.

Promecothea cyanipes further description p. 38; *oenoptera* sp. n. Philippines p. 39, UHMANN t.c.

Prosopodonta cordillera sp. n. Cordillera p. 1138 figs MAULIK Proc. Zool. Soc. Lond. 1931.

Pseudocallispa gen. n. p. 6, *schultzei* sp. n. Philippines p. 7 figs., UHMANN N. Beitr. syst. Insektenk. 5.

Solenispa bicolor sp. n. Ecuador p. 33, PIC Mél. exot.-ent. 58.

Sternostena triangularis sp. n. Brazil p. 58, UHMANN Boll. Soc. ent. ital. 63.

Uroplata clavicornis sp. n. Brazil p. 164, UHMANN Deuts. ent. Z. 1930.—*U. decipiens* sp. n. Peru p. 219, UHMANN Stett. ent. Ztg. 92.

Wallaceana impicta p. 42, *biseriata* p. 43, *costipennis* p. 44, spp. n. Mindanao figs., UHMANN N. Beitr. syst. Insektenk. 5.

Wallacispa gen. n. p. 40, *tibialis* sp. n. Mindanao p. 41 fig., UHMANN t.c.

Xenochalepus bajulus varr. n. *latere-ductus*, *jatahyensis*, *lateobliteratus*; *robustus* p. 18, *annulatus* Brazil, *longiceps* Peru, *rubronotatus* Bolivia p. 19, *cayennensis* Fr. Guiana p. 18, spp. n., PIC Mél. exot.-ent. 57.

Xiphispa incerta sp. n. Solomon Is. p. 174 fig., UHMANN Deuts. ent. Z. 1930.

CASSIDIDAE.

Cassida spp. short biological and morphological notes p. 108, CATHERINE Bull. Soc. linn. Seine-Marit., Le Havre 14 1928.—*C. murraea* r. n. *caucasica* Caucasus p. 184, ROUBAL Ent. Bl. 27.—*C. vittata* food-plants p. 106, TEMPÈRE Act. Soc. linn. Bordeaux 80 1928.

Hoplionota key to spp. from Madagascar and neighbouring Is. pp. 149–174, *bellula* sp. n. Madagascar p. 152 fig., SPAETH Wien. ent. Ztg. 48.—*H. delutata* p. 101, *collarti* spp. n. Belgian Congo, key to African spp. p. 103, SPAETH Rev. Zool. Bot. afr. 21.

Metriona thais life-history pp. 221–223 [in Japanese], YUASA Oyo-Dobuts. Zasshi 3.

Tauroma key p. 306, *aeruginosa* Boh. (= *armigera* Boh.); *arietina* Boh. (= *caprigena* Spaeth) p. 305; *aureicornis* Boh. (= ? *ammon* Boh.); *cuprea* Wagen. ab. of *taurus* F.; *azurea* Wagen. ab. of *casta* Boh.; *reichei* Boh. (= *bohemani* Wag.) p. 306; *reculens* p. 313, *caucana* p. 314, spp. n. Colombia, SPAETH Stett. ent. Z. 92.

HYMENOPTERA.

Hymenoptera Aculeata from Korinchi, W. Sumatra, J. F.M.S. Mus. 8 pp. 219-220.

Aculeate Hymenoptera of Yorkshire, BUTTERFIELD & FORDHAM Naturalist 1931 pp. 155-158.

Notes on Portuguese Hymenoptera, DUSMET v ALONSO Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 52 9 pp.

Aculeate Hymenoptera from Danalia, GUIGLIA Ann. Mus. Genova 55 pp. 157-164, 2 figs.

Morphology and biology of some melliferous and predacious Hymenoptera, XI, GRANDI Boll. Lab. Ent. Bologna 3 1930 pp. 302-343, 5 pls. 13 figs.

List of Aculeate Hymenoptera from Pamirs, GUSSAKOVSKIĖ Abh. Pamir Exped. 1928 2 1930 pp. 67-78.

Hymenoptera of Japan, with English descriptions of new genn. and spp. described in 1,000 insects of Japan, MATSUMURA Ill. Thous. Ins. Jap. 2 (Hym.) 98 & 89 pp. 18 pls. 1930.

First contribution to the Hymenoptera of the Lido of Venice, SOIKA Boll. Soc. ent. ital. 63 pp. 99-103.

Some wasps and bees from Hôkotô (Pescadores), SONAN Trans. N.H. Soc. Formosa 21 pp. 6-8.

Biology of various Hymenopterous parasites, WÜLKER Int. ent. Z. 25 pp. 14-16.

Apoidea.

APIDAE (s. l.).

Apidae (part) of the German-Russian Alai-Pamirs Expedition 1928, ALFKEN Mitt. zool. Mus. Berl. 16 pp. 823-844.

Notes on classification of some Japanese bees, ALFKEN Deuts. ent. Z. 1931 pp. 167-169.

Systematic notes on Illiger's Apids, BISCHOFF & HEDICKE SitzBer. Ges. naturf. Fr. Berlin 1930 pp. 385-392.

Notes on the bees of N. Thuringia, BLÜTHGEN Mitt. ent. Ges. Halle a.S. 12 1919 pp. 19-36.

Bees collected by the Rev. O. Piel in China, COCKERELL Amer. Mus. Nov. no. 466 16 pp.

Collecting wild bees in Morocco, COCKERELL Nat. Hist. 31 pp. 310-317, 8 figs.

Revision of Australian Apidae, with keys, COCKERELL Aust. Zool. 7 pp. 34-54.

Materials for a new catalogue of Belgian Apidae, CRÈVECOEUR & MARÉCHAL Bull. Ann. Soc. ent. Belg. 71 pp. 101-116.

Evolution of parasitic bees, FRIESE Zool. Jahrb. Syst. 62 pp. 1-14, 5 figs.

The use of the abdomen by bees in nest construction, HICKS Canad. Ent. 63 pp. 173-178.

Contribution to the knowledge of the bee fauna of New Zealand, MEYER Konowia 10 pp. 248-254, 2 figs.

Apidae of Pamirs, REINIG Deuts. ent. Z. 1931 pp. 60-64.

Notes on oligolectic Andrenidae, ROBERTSON Ent. News 42 p. 226.

Rocky Mountain Bees, IV, RODECK Amer. Mus. Nov. no. 496 11 pp. 1 fig.

Afrostelis gen. n. p. 340, *tegularis* sp. n. Belgian Congo p. 341, COCKERELL Rev. Zool. Bot. afr. 20.

Allopsithyrus subgen. n. see *Psithyrus*.

Andrena callopyrrha ♂ p. 3, COCKERELL Amer. Mus. Nov. no. 452.—*A.* discussion of type p. 1, *albosellata* p. 7, *brevibasis* p. 8, *corrugata* p. 9, *lutzi* p. 12, *postnitens* p. 15, *rufojugata* p. 17 spp. n.; *birtwelli* subsp. n. *subatrata* p. 8; *nigerrima* subsp. n. *pineti* p. 13 U.S.A.; *hallii* ♀ p. 10, COCKERELL op. cit. no. 458.—*A. crassepunctata* p. 10, *mediocalens* p. 11, *speculella* p. 12, spp. n. China, COCKERELL op. cit. no. 466.—*A. barnei* Morocco p. 344, *ramaleyi* U.S.A. p. 346 spp. n.; *colletina* ♀ p. 345 (10) 7; *commoda* Sm. (= *wilmattae* Ckll.) p. 411 (10) 8, COCKERELL Ann. Mag. N.H.—*A.* notes on some spp.; *nubecula* r. n. *tristicornis* U.S.A. p. 22; *annae* sp. n. Canada p. 200, COCKERELL Canad. Ent. 63.—*A. commixta* ♂; *succinea* ♂ ♀ p. 52; *colletiformis* Moraw. (= *dissidens* Schmied.) p. 53, ALFKEN Stett. ent. Z. 92.—*A. nigriceps* subsp. n. *pamirensis* p. 827; *pullipennis* sp. n. p. 828 Pamirs. ALFKEN Mitt. zool. Mus. Berl. 16.

Anthidium biology of German pp. 141-148, MÜLLER Z. wiss. InsektBiol. 26.—*A. ruizi* sp. n. Chile p. 375 fig., REED Rev. chil. Hist. nat. 34 1930.—*A. polingae* sp. n. Texas p. 315 figs., SCHWARZ J. N.Y. Ent. Soc. 39.—*A. ifranicum* p. 209, *asniense* sp. n. Morocco; *latreillei rubiginosum* Lep. (= *coronatum* Sm.) p. 210; *fimbriata* Brul., *variabilis* Schm., *kirbyi* Curt. distinct spp. p. 211, COCKERELL Ann. Mag. N.H. (10) 7.—*A. 3-dentatum* Tashkent p. 35, *edentatum* p. 36, *hirtiventris* p. 38 Turkestan spp. n.; *pubescens* var. n. *maximum* Taurus p. 37; *cordatum* var. n. *salamense* Pemba Is. p. 39 figs., FRIESE Konowia 10.—*A. laterale* var. n. *confluens* Sierra Nevada p. 57, ALFKEN Stett. ent. Z. 92.—*A. forcipatum* ♀ p. 838; *reinigi* sp. n. p. 840; *manicatum* subsp. n. *subcrenulata* p. 842; *montanum* subsp. n. *pamirensis* p. 843 Pamirs, ALFKEN Mitt. zool. Mus. Berl. 16.—*A. reichardti* p. 69, *pentagonum* p. 70, spp. n. Pamirs, GUSSAKOVSKIÏ Abh. Pamir Exped. 1928 2 1930.

Anthophora nigripes ♂ Pamirs p. 63, GUSSAKOVSKIÏ t.c.—*A.* from Alai-Pamirs pp. 845-857, *bimaculata* subsp. n. *flavofimbriata* p. 846; *lacteifrons* p. 847, *aeneiventris* p. 850, *reinigi* p. 856 spp. n.; *vulpina* subsp. n. *alticola* p. 848; *futiginosa* subsp. n. *pamirica*, f. n. *atra* p. 849; *parietina* subsp. n. *pamiricola*, ff. n. *flavipes* p. 854, *atra* p. 855 Pamirs; *aestivalis* subsp. n. *alalaica* Alai p. 853; *retusa* subsp. *baicalensis* further description p. 852; *carinulata* ♀ p. 855, HEDICKE Mitt. zool. Mus. Berl. 16.—*A. crocea* ♀ p. 23 fig., SEN Rec. Ind. Mus. 33.—*A. patruelis* sp. n. China p. 2 fig., COCKERELL Amer. Mus. Nov. no. 452.—*A. nigrifrons, ferreola* spp. n. China p. 7, COCKERELL op. cit. no. 466.—*A. dulcifera* ♂ p. 6; *doveri* n. n. for *nigritarsis* Dover nec Friese p. 7 figs., COCKERELL op. cit. no. 480.—*A. nurrana* Morocco p. 278 (10) 7, *greyae* Cape Province p. 404 (10) 8, spp. n., COCKERELL Ann. Mag. N.H.

Apis African races pp. 67-68, ROTTER Bee World 12.—*A. remipes* Pall. for all Caucasian races p. 55, SKORIKOV Arch. Bienenk. 11 1930.—*A. ferruginata* L. author and scope pp. 79-80, ALFKEN Mitt. deuts. ent. Ges. 2.—*A. indica* morphology, biology pp. 44-48, 56-64, 71-74, FRANSSEN Natuurh. Maandbl.

20.—*A. indica peroni* morphology, biology pp. 613-623, KELLOGG Lingnan Sci. J. 7.—*A. mellifica* and allied spp. history of distribution in the world pp. 294-308, ARENS Oupit. Paseka 1930; variations in European Russia and Caucasus pp. 321-327 figs., ALPATOV Oupit. Paseka 1930; reaction to light pp. 379-419 figs., BERTHOLF J. Agric. Res. 42; inheritance of white eyes p. 190 figs., MICHAILOFF Z. indukt. Abstamm. VererbLehre 59; post-embryonic development of thoracic appendages pp. 129-182 figs., DRABATY Arch. Bienenkunde 11 1930; influence of temperature on metabolism pp. 611-619 fig., FARRAR J. Econ. Ent. 24; morphology and physiology of glands in head and thorax pp. 120-200 figs., KRATKY Z. wiss. Zool. 139; morphology and function of sense organs at base of wings pp. 647-668 figs., NEWTON Quart. J. Micr. Sci. (N.S.) 74; wax-glands and fat-body in hibernation pp. 108-121 figs., ÖRÖSI PAL Arb. Ung. biol. Forsch. Inst. 4; seasonal variation pp. 304-312 figs., MICHAILOFF Arch. Bienenkunde 8 1927; biology of swarms pp. 158-174, HÖHNEL Arch. Bienenkunde 10 1929; variation and breeding with reference to length of proboscis pp. 185-279 figs., GÖTZE Arch. Bienenkunde 11 1930.

Ashmeadiella bequaerti sp. n. Yucatan p. 543, COCKERELL Ann. Mag. N.H. (10) 8.

Augochlora viridinitens p. 551, *cyanaspis* p. 552, *gemiccauda* p. 553, spp. n. Yucatan, COCKERELL t.c.

Bombus jonellus var. n. *hebridensis* Hebrides p. 118 figs., WILD Scot. Nat. no. 190.

Bombus spp. feeding on secretion from cornicles of Aphids p. (51), HULKONEN Ann. Soc. zool.-bot. fenn. Vanamo 8 1929; notes, Scotland no. 187 pp. 23-24, no. 192 pp. 181-183, LAIDLAW Scot. Nat.—*B.* morphological notes on spp. allied to *alpinus* 32 pp., *hyperboreus* var. n. *natvigi* Greenland p. 9; *arcticus* var. n. *alpiniformis* Esmark p. 13; *balteatus* Dahl. (= *kirbyellus* var. *pyrrhopygoideus* Skor.) p. 15; flower records of Arctic spp. p. 23, RICHARDS Tromsø Mus. Arsh. 50 no. 6.—*B. mimeticus* sp. n. p. 529 (with varr. n. *albolateralis*, *gantokiensis*, *turneri* p. 530, *insidiosus*, *geminatus*, *magrettiannus* p. 531) India figs., RICHARDS Ann.

Mag. N.H. (10) 8.—*B. leucurus* n. n. for *leucopygus* Ill. nec Mor. p. 391, BISCHOFF & HEDICKE SitzBer. Ges. naturf. Fr. Berlin 1930.—*B. melanurus griseofasciatus* p. 860, *separandus postzonatus* p. 862 nests, BISCHOFF Mitt. zool. Mus. Berl. 16.—*B. muscorum, agrorum* biology p. 257, BARNETT Irish Nat. J. 3.—*B. agrorum* colour variation pp. 148–237 figs., KRÜGER Z. Morph. Oekol. Tiere 24.—*B. pennsylvanicus* var. n. *umbratus* Labrador; *fervidus* var. n. *umbraticollis* Canada; *morrisoni* var. n. *umbrosus* Colorado; *cayennensis* varr. n. *ochraceus* S. America, *nigri-ventris* Colombia p. 301, *parifer, jundiahyensis, draeneri, pauloensis, ubera-bensis* Brazil, *buchwaldi, albidoanalis* Ecuador; *brasiliensis* var. n. *palliventr* Paraguay; *violaceus* var. n. *brunnescens* Brazil; *thoracicus* varr. n. *umbrinus* Argentina, *umbricollis* p. 302; *megacephalus* sp. n. Brazil; *terrestris* var. *fulvocinctus* f. n. *niveicollis, t.* var. n. *grossiventris* India; *hypnorum* var. n. *albescens* Germany p. 303, FRIESE Konowia 10.—*B.* notes on some Philippine spp. p. 6 (note), *geei* subsp. n. *nigribasis* p. 5; *rufocognitus* var. n. *nefandus* p. 6 China, COCKERELL Amer. Mus. Nov. no. 480.—*B. carolinus* new to Argentina p. 330, GEMIGNANI Rev. Soc. ent. argent. 3.—*B. laesus mocsaryi* var. n. *aliceae* Morocco p. 280, COCKERELL Ann. Mag. N.H. (10) 7.

Ceratina callosa subsp. n. *cephalica* p. 350; *dallatorreana* subsp. n. *albosticta*; *scintilla* Morocco p. 351 (10) 7, *itzarum* p. 548, *yucatanica, parignara* p. 549, *viridicincta* p. 550, spp. n. Yucatan; *triangulifera* Ckll. (= *ecuadoria* Friese) p. 549 (10) 8, COCKERELL op. cit.—*C. viridis* Guér. (= *nasiinsignita* Str.) further description p. 34, HEDICKE Mitt. deuts. ent. Ges. 2.

Chalicodoma desertorum tsinanensis ♂ p. 1, COCKERELL Amer. Mus. Nov. no. 452.—*C. baeticum, murarium* ♂ ♀ p. 56, ALFKEN Stett. ent. Z. 92.—*C. valesina* sp. n. Switzerland, distinguished from *baeticum* Gerst. p. 19, ALFKEN Mitt. deuts. ent. Ges. 2.—*C. pyrenaicum* subspp. n. *pamirense, glaciale* Pamirs p. 835, ALFKEN Mitt. zool. Mus. Berl. 16.

Coelioxys incisus sp. n. Alai p. 843, ALFKEN t.c.—*C. ruficincta* sp. n. China p. 5; *fenestrata* distribution, anatomical notes p. 6, COCKERELL Amer. Mus. Nov. no. 466.—*C. rhodacantha* sp. n.

Morocco p. 347 (10) 7; *ardescens* subsp. n. *yucatanica*; *speculifera* p. 545, *bequaertiana* p. 546, spp. n. Yucatan; *burgdorfi* n. n. for *costaricensis* Friese nec Ckll. p. 547 (10) 8, COCKERELL Ann. Mag. N.H.

Colletes alluaudi sp. n. Morocco p. 415, COCKERELL op. cit. (10) 8.

Corynura key to Chilean spp. p. 211, *cristata, heterochlora* p. 216, *ampliata* p. 218, *corynogastra* ♂ ♂; *apicata* Sich. (= *haemorrhhoa* Vach.) ♀ p. 217, ALFKEN Stett. ent. Z. 92.

Crocisa paucimaculosa sp. n. Pamirs p. 831, ALFKEN Mitt. zool. Mus. Berl. 16.

Crociaspidia status and grouping of spp. pp. 213–214, *albopicta* sp. n. Kenya p. 214; *superba* Friese from *Nomia* p. 215, COCKERELL Ann. Mag. N.H. (10) 8.

Ctenoplectra armata p. 168, *nigrotes-tacea* p. 170, *albolimbata* p. 171, *antinorii* p. 172, *cornuta* p. 174 re-descriptions, GUIGLIA Ann. Mus. Genova 55.

Dasygoda maura, plumipes ♂ ♀ p. 55, ALFKEN Stett. ent. Z. 92.

Digronoceras subgen. n. see *Gronoceras*.

Eopsithyrus subgen. n. see *Psithyrus*.

Euprosopis elegans description pp. 45–49 figs., RAYMENT J. Roy. Soc. W. Aust. 16 1930.

Exoneura punctata sp. n. W. Australia p. 55, RAYMENT t.c.

Gnathoprosopis marianella sp. n. Victoria p. 139, biology pp. 135–139 figs., RAYMENT Vict. Nat. 47.

Gronoceras (*Digronoceras* subgen. n., type *combusta* Sm.) p. 134, COCKERELL Rev. Zool. Bot. afr. 20.

Halictus spp. morphology, phylogeny, nests, parthenogenesis pp. 285–368, figs., NOLL Z. Morph. Oekol. Tiere 23.—*H. occidentalis* p. 51, *formosus* p. 52, *greavessi* spp. n.; *erythrurus* subsp. n. *maiusculus* p. 53 W. Australia, RAYMENT J. Roy. Soc. W. Aust. 16 1930.—*H. raymenti*, nest, biology pp. 184–191 figs., RAYMENT Vict. Nat. 47.—*H. malachurus* f. *longulus* nest habits of summer generation pp. 210–222, APTEL Bull. Soc. ent. Fr. 1931.—*H. picipes* Mor. (= *amaranus* Mor.); *xanthopus* K. (= *fulvicrus* Eversm.); *rubicundus* Christ

(= *tomentosus* Eversm.) p. 209; *minutulus* Schck. (= *sublaevis* Schck.); *albomaculatus* Luc. (= *platycestus* Dours); *tricinctus* Schck. (= *delmasi* Pér.); *limbellus* Mor. (= *ventralis* Pér.); *varipes*; Mor. (= *omanicus* Pér., *dives* Pér.); *articularis* Pér. (= *romanetti* Blüthg.) p. 210; *minutissimus* K. (= *hollandi* Saund.); *minor* Mor. (= *jarkandensis* Strand); *denticollis* Mor. (= *glycybromifer* Strand, *morbillosus orientalis* Ckll.); *morbillosus fertonii* Vach. (= *m. glasunovi* Ckll.); *radoszkovskii* Vach. (= *rufus* Fr.) p. 211; *croceipes* Mor. (= *longipes* Bl.); *aprilinus* Mor. (= *inexpectatus* Bl.); *mandibularis* Mor. (= *sareptanus* Bl., *coloratus* Mor.); *anellus* Vach. (= *schelkownikovi* Kok.) p. 214; *tetrazonianellus* Strand (= *leucognathus* Mor.); *sphecodimorphus* Vach. (= *coelebs* Bl.); *varentzowi* Mor. (= *pseudarazanus* Bl.) p. 213; *palustris* Mor. (= *pseudomaculatus* Bl.); *atomarius* Mor. (= *betomarius* Bl.); *clypeiferellus* Str. (= *testaceohirtulus* Bl.); *fuscicollis* Mor. (= *flavocallosus* Mor.) p. 214; *equestris* Mor. (= *ferghanicus* Mor.); *albescens sepulchralis* Cam. (= *a. lahorensis* Cam.); *a. a. Sm.* (= *picipes* Cam.); *ellipticeps* Bl. (= *mayacensis* Ckll.) p. 215, BLÜTHGEN Deuts. ent. Z. 1930.—*H.* synonymical notes pp. 319–327, *cedens* n. n. for *posthumus* Blüth. nec Vach. p. 321; *dolichocephalus* var. n. *hierosolymae* Jerusalem p. 323; *gorkiensis* Russia p. 327, *argaeus* Asia Minor, *ragusanus* Ragusa p. 330, *sublateralis* Kashmir p. 334, *subprasinus* Samarkand p. 336, *subequestris* N. Persia p. 338, *bischoffi* Asia Minor p. 340, *acephaloides* Caucasus p. 345, *haesitans* Daghestan p. 348, *samarkandinus* Samarkand p. 352, *gilanus* S.W. Persia p. 355, *serotinus* Mongolia p. 356, *przewalskyi* Russia p. 358, *albitarsoides* Khiva p. 359, *leptorhynchus* Egypt p. 360, *pseudoleptorhynchus* India p. 362, *erraticus* Crete p. 365 (with var. n. *tiflensis* Tiflis p. 366), *nabardicus* Nabardi p. 367, *adabaschus* Askhabad p. 368, *tschardschuicus* Bokhara p. 371, *orpheopsis* p. 374, *popovi* p. 376 Russia, *chiwensis* Khiva p. 379, *opaonitens* Syr-Daria p. 385, *grisellinus* Algeria p. 386, *tschibuklinus* Bosphorus p. 388, *castilianus* Spain p. 390, *keriensis* E. Turkestan p. 392, *corsicanus* Corsica p. 394, *verticalis* Taurus p. 396 spp. n.; *anellus* subsp. n. *limbelloides* Asia Minor p. 332; *bimaculatus* subsp. n. *hispanicus* Spain p. 342; *lativentris* var. n.

sotschica Black Sea; *euboeënsis* var. n. *anatolica* Anatolia p. 350; *maculipes* var. n. *tschulica* Transcaspija p. 372; *lateralis* p. 333, *cristula* p. 342, *pseudocaspicus* p. 345, *acephalus* p. 346, *strictifrons* p. 364, *ciscapus* p. 383, *patulus* p. 390, *annulipes* p. 393, *placidulus* p. 395 ♂ ♂; *adaliae* p. 351, *melanopus* p. 381 ♀ ♀; *morbillosus* synonymy of rr. pp. 324–327 figs., BLÜTHGEN Mitt. zool. Mus. Berl. 17.—*H.* supplement to revision of Indo-Malayan spp. pp. 286–346, *atschinensis* p. 304, *castrorum* p. 330, *gynopsis* p. 333, *battacus* p. 335, *vicillosus* p. 337, *murbanus* p. 287, *Indohalictus* subgen. n. *gunungensis* p. 292 Sumatra, *muganinus* Imugan, N. Viscaya p. 291, *eduardi* p. 306, *chanyomae*, *pseuditalicus* p. 311 N. India, *subleiosoma* Canton p. 313, *malachuropis* Kumaon p. 314, spp. n.; *burmanicus* ♂ p. 303; *monachus* ♀ p. 336; *lucidiusculus* var. n. *nitidior* N. India p. 339; *penangensis* var. n. *kocki* Sumatra p. 287; *cockerellellus* n. n. for *cockerelli* Blüth. nec Crawf. p. 291 figs., BLÜTHGEN Zool. Jahrb., Syst. 61.—*H. smithii* ♂ p. 253, MEYER Konowia 10.—*H. percrassiceps*, *viridellus* p. 14, *macrurus* p. 15, *speculicaudus*, *simplicior* p. 16, spp. n. China, COCKERELL Amer. Mus. Nov. no. 466.—*H.* (*Monilapis* subgen. n. type *tomentosus* Eversm.); *kessleri* notes on Atlas Mts. spp. p. 529; *scabiosae* subsp. n. *powelli* p. 531; *phanerodontus*, *ifranensis* p. 532 spp. n. Morocco, COCKERELL Ann. Mag. N.H. (10) 7.

Heriades carinata var. n. *purpurascens* Yucatan p. 543, COCKERELL op. cit. (10) 8.—*H. crenulatus* subsp. n. *aurantifer*; *wilmattae* p. 159, *politulus* p. 160 spp. n. Morocco, COCKERELL Entomologist 64.—*H. ustulata* Fr. Congo p. 99, *ellenbergeri* Basutoland, *chariensis* Chari p. 100, *centralis* p. 101, *burgeoni* Belgian Congo, *pogonura* p. 102, *canaliculata* p. 103, *cingulata* N. Rhodesia p. 104, spp. n., BENOIST Ann. Soc. ent. Fr. 100.—*H.* (*Noteriades* subgen. n. type *tricarinus* Bingh.) p. 332, *nitescens*, *communis* p. 334, *bequaerti* p. 336, *sulcatulus* p. 337 Belgian Congo, *libericus* Liberia p. 338 spp. n., COCKERELL Rev. Zool. Bot. afr. 20.

Heriadopsis gen. n. p. 338, *striatulus* sp. n. Belgian Congo p. 339, COCKERELL t.c.

Hylaeus discussed p. 1; *ellipticus* Kby. (= *varifrons* Cress.) p. 4; *divergens* distinct from *wootoni* p. 7; *lacinia* p. 9, *perparvus* p. 10, *seclusus* p. 12, *repolitus* p. 13 spp. n. U.S.A. figs., COCKERELL & SUMNER Amer. Mus. Nov. no. 490.—*H. hookeri*, *denisonae* p. 534 (with subsp. n. *ifranensis*), *pauperculus* p. 536 spp. n.; *stigmorhinus* subsp. n. *multistictus* p. 535 Morocco, COCKERELL Ann. Mag. N.H. (10) 7.

Hypanthidium yucatanicum sp. n. Yucatan p. 544, COCKERELL op. cit. (10) 8.

Indohalictus subgen. n. see *Halictus*.

Lestrimelitta key p. 14; *ehrharti* sp. n. Brazil p. 13; *limao* nests p. 4 figs., FRIESE Zool. Jahrb. Syst. 62.

Liopoeum submetallicum stylized pp. 77–79, SCHWARZ J. N.Y. Ent. Soc. 39.

Lithurgus subrufus sp. n. Tanganyika p. 38; *cornutus* var. n. *obscurus* Morocco p. 203, COCKERELL Ann. Mag. N.H. (10) 7.

Macropis morsei new to Nova Scotia p. 279, COCKERELL Canad. Ent. 63.

Megachile notes on Japanese spp., key p. 169, *kyotensis* sp. n. Japan p. 174, ALFKEN Deuts. ent. Z. 1931.—*M. erythrocnemis* p. 835, *albidula* p. 836 spp. n.; *analis* subsp. n. *cana* p. 837; *lagopoda* subsp. n. *albokirta* p. 838 Pamirs, ALFKEN Mitt. zool. Mus. Berl. 16.—*M. flava* Fr. (= *loosi* Vach., *garua* Strd.) p. 35; *bituberculata* Rits. (= *emarginata* Fr., *togoensis* Fr., *schaferana* Strd.) p. 36, HEDICKE Mitt. deuts. ent. Ges. 2.—*M. centuncularis janssoni* discussed p. 139 [in Swedish], GAUNITZ Ent. Tidskr. 51 1930.—*M. trichomarginata* sp. n. W. Australia p. 54, RAYMENT J. Roy. Soc. W. Aust. 16 1930.—*M. lagopoda* subsp. n. *pieli* China; *remota* ♂ p. 4, COCKERELL Amer. Mus. Nov. no. 466.—*M. faceta* subsp. n. *rufogugata* China p. 2; *kagiana* Ckll., *caldwelli* Ckll. fr. of *bicolor* p. 3, COCKERELL op. cit. no. 480.—*M. polyacantha* p. 138, *rhodomelanura* p. 139, *bambiliensis* p. 140, *mesoleuca* p. 145, *semialba* p. 146, *ruficauda* p. 147, *michaelis* p. 148, *lobicauda* p. 149, *dolichognatha* p. 150, *rufibasis* p. 151, *nitidula* p. 152, *seclusa*, *angusticauda* p. 153, *lutescens* p. 154, *lineolata*, *rudissima* p. 156, *dorsirufa*, *granulicauda* p. 161, *gastrodonta* p. 162,

callichlora p. 167, *semivenusta* p. 169, *boswendica* p. 172, *selenostoma* p. 173, *admixta* p. 175, *niveicauda* p. 176, *seclusiformis* p. 177, *burungana*, *panda* p. 178 Belgian Congo, *proplanata*, *gastracantha* p. 141, *megaethiops* p. 157, *crocutella* (also Belg. Congo) p. 158, *bangana* p. 174 Liberia spp. n.; *opacula rudihirta* n. n. for *laticeps* Friese nec Sm. p. 170; o. subsp. n. *crassitarsis*, *kimilolana* p. 171, *perfimbrata* p. 172 Belgian Congo; *hexadonta* n. n. for *sexdentata* Friese nec Rob. p. 163, COCKERELL Rev. Zool. Bot. afr. 20.—*M. calloleuca* p. 273, *argyrea* p. 275, *micrargyrea* p. 277 spp. n.; *centuncularis* subsp. n. *theryi* Morocco; *sericans* subsp. n. *cyprica* Cyprus p. 274; *variscopa* ♂ p. 275 (10) 7; *variscopula*, *pulverella* Sudan p. 39, *thomasseti* Natal p. 41, *carpenteri* p. 42, *gowdeyi* p. 43 Uganda, *rosarum* p. 45, *griseola* p. 46, *tenuiventris* p. 47, *melanoleuca* p. 48 Kenya, *epixanthula* Tanganyika p. 47, *addebitans* p. 537, *adempta* p. 538, *animosa* p. 539, *acculta* p. 540 spp. n.; *frugalis* subsp. n. *atrescens* p. 537; *petulans* subsp. n. *abnegata* p. 538 Yucatan (10) 8, COCKERELL Ann. Mag. N.H.

Meganomia raised to gen. rank, scope, *tsavoensis* Strand (♂ p. 202), *andersoni* M.-Waldo, *binghami* Ckll. from *Nomia* p. 201, COCKERELL op. cit. (10) 7.

Melecta chinensis sp. n. China p. 6, COCKERELL Amer. Mus. Nov. no. 466.

Melitta eryngii sp. n. Morocco p. 344, COCKERELL Ann. Mag. N.H. (10) 7.

Mesotrichia sinensis further characters p. 39, COCKERELL t.c.

Metapsithyrus subgen. n. see *Psithyrus*.

Monilapis subgen. n. see *Halictus*.

Nomada key p. 1, *leucozona* sp. n. Colorado p. 4 fig., RODECK Amer. Mus. Nov. no. 496.—*N. villipes* ♂ p. 150, HEDICKE Mitt. deuts. ent. Ges. 2.—*N. microsticta* Morocco p. 112, *nitidiceps* Yucatan p. 547, spp. n., COCKERELL Ann. Mag. N.H. (10) 8.

Nomia thoracica subsp. n. *excellens* p. 40; *nitens* sp. n. p. 41 China; *delagoana* n. n. for *excellens* Friese nec Ckll.; *thoracica melior* n. n. for *t. excellens* Ckll. 1931 nec 1929 p. 281 (10) 7; *chlorozona* p. 266, *antecedens* p. 274, *kingi* p. 282 Sudan, *megapoda* p. 267, *ablusa* p. 272,

ambusta p. 277 Kenya, *leucophora* p. 268, *neli* p. 269, *aureotecta* p. 270 Cape Province, *aculeata* Sierra Leone p. 276, *entebbian* Uganda, *admixa* p. 278 spp. n.; *murinella* ♂, *varr.* n. *absona*, *abjuncta* Natal p. 273; *inaequalis* n. n. (FRIESE) for *inermis* Friese nec Mor.; *pulcherrima* n. n. (FRIESE) for *pulchra* Friese 1930 nec 1909; *magnicornis* n. n. (FRIESE) for *longicornis* Friese nec Sm. p. 275; *nudiventris* Friese (= *pyrra* Ckll.) p. 269; *aurifrons* Smith status of African sp. p. 270; *cinerea* ♀ p. 271; *interstitinervis* new to Africa p. 275; *tridentata* Sm. p. 279, *duplocincta* p. 281 discussed (10) 8, COCKERELL op. cit.—*N. aleniana* Strd. (= *stigmatica* Fr.) p. 34; *binghami* Ckll. (= *flavofasciata* Fr.); *chanleri* Ashm. (= *nigripes* Fr.); *lamellata* Sm. (= *superba* Fr.); *post-scutellaris* Strd. (= *pretiosa* Fr.); *somatica* Fr. (= *stylopicata* Strd.); *tetraloniformis* Strd. (= *rothkirchi* Fr.) p. 35, HEDICKE Mitt. deuts. ent. Ges. 2.—*N. pieli* p. 9, *viridicinctula* p. 10, spp. n. China, COCKERELL Amer. Mus. Nov. no. 466.—*N. superba* see *Crociaspidia*; *N. tsavoënsis*, *andersoni*, *binghami* see *Meganomia*.

Nomioides labiatarum p. 204, *cruciferarum* p. 205, *campanulae* p. 206, *senecionis* p. 208, spp. n. Morocco, COCKERELL Ann. Mag. N.H. (10) 7.

Noteriades subgen. n. see *Heriades*.

Osmia of France pp. 23–60, key p. 45, BENOIST Ann. Soc. ent. Fr. 100.—*O. rickmersi* sp. n. Pamirs p. 833, ALFKEN Mitt. zool. Mus. Berl. 16.—*O. atrocaerulea* var. n. *cyanelia* N. Africa p. 57, ALFKEN Stett. ent. Z. 92.—*O. pamirensis* sp. n. Pamirs p. 71, GUSSAKOVSKIĖ Abh. Pamir Exped. 1928 2 1930.—*O. jacoti* ♂ p. 1, COCKERELL Amer. Mus. Nov. no. 452.—*O. microdonta* p. 1, *pieli*, *heudei* p. 2, *rufina* p. 3, spp. n. China, COCKERELL Amer. Mus. Nov. no. 466.—*O. loti* biology p. 19, larva p. 21 figs., MICHELI Atti Soc. ital. Milano 70.

Panurgus banksianus biology p. 23, arva p. 25 figs., MICHELI t.c.—*P. marginatus* ♂ p. 54, ALFKEN Stettin. ent. Z. 92.

Paracolletes albopilosa sp. n. W. Australia p. 50, RAYMENT J. Roy. Soc. W. Aust. 16 1930.

Prosopis key to ♀♀ of group *variegata* p. 176, *excelsa* Persia, *effasciata*

Tarsus spp. n. p. 177, ALFKEN Deuts. ent. Z. 1930.—*P. plurifasciata* sp. n. Pamirs p. 824, ALFKEN Mitt. zool. Mus. Berl. 16.

Pseudopanurgus timberlakei sp. n. Arizona p. 201, COCKERELL Proc. Ent. Soc. Wash. 33.

Psithyrus Palaearctic spp. pp. 131–209, (*Eopsithyrus* p. 134, *Metapsithyrus* p. 135, *Allopsithyrus* p. 136 subgen. n.), key p. 143; *vestalis* var. n. *bluethgeniellus* Sardinia p. 170; *distinctus* var. n. *barovskyi* Russia p. 172; *branicikii* varr. n. *typicusrufocaudatus* (VOGT) p. 175, *rufocaudatus* (VOGT) p. 176 Bukhara; *campestris* varr. n. *lacrymosus*, *bimaculatus*, *disconotus* p. 178 Russia; *redikorzevi* p. 181 (with var. n. *inamoerius* p. 182), *morawitzianus* (VOGT) (with varr. n. *flaviscutis*, *nigerrimus* (VOGT)) p. 184 Bukhara, *gansuensis* p. 202 Transcaucasia spp. n.; *maxillosus* varr. n. *fallaciosus* p. 187, *intermedius* p. 188 Transcaspi; *barbutellus* varr. n. *bimaculatus* p. 189, *maculinotus*, *richardsi* p. 190 Russia; *quadricolor* varr. n. *ingermanlandicus* Finland, Transcaucasia, *flaviscutis* p. 194, *rossicus* p. 195, *redikorzevae* p. 196 Russia; *flavidus* varr. n. *leucochrous* p. 198, *maculinotus*, *frisoni* p. 199; *norvegicus* var. n. *muelleri* Germany p. 201 figs., POPOV Eos 7.—*P. campestris* ff. n. *aterrima* p. 83, *flavo-abdominalis* p. 84, Germany MÜLLER Mitt. deuts. ent. Ges. 2.—*P. latifasciatus* Sikkim, *monozonus* Formosa, spp. n. p. 304, FRIESE Konowia 10.

Rediviva neliana sp. n. Cape Province p. 401, COCKERELL Ann. Mag. N.H. (10) 8.

Sphecodes zangherii sp. n. Italy p. 139 figs., NOSKIEWICZ Ann. Mus. zool. polon. 9.—*S. pieli* sp. n. China p. 13, COCKERELL Amer. Mus. Nov. no. 466.—*S. subpunctulatus* ♂ p. 348; *africanus* discussed p. 349; *rufipennis* p. 348, *atrescens* p. 350 (10) 7, *lustrans* p. 411 (10) 8 spp. n. Morocco, COCKERELL Ann. Mag. N.H.

Stelis aculeata ♀; *modesta* sp. n. Pamirs p. 834, ALFKEN Mitt. zool. Mus. Berl. 16.—*S. yucatanica* p. 540, *shat-tucki* p. 542, spp. n. Yucatan; *abnormis* further description p. 541, COCKERELL Ann. Mag. N.H. (10) 8.

Systropha ugandensis sp. n. Uganda p. 400, COCKERELL t.c.

Tetralonia sudanica p. 402, *gossypii* p. 403, spp. n. Sudan, COCKERELL t.c.—*T. nigri-ventris* sp. n. Armavir, N. Caucasus p. 111, ALFKEN Mitt. deuts. ent. Ges. 2.—*T. jacoti* Ckll. (= *polychroma* Ckll.) p. 3, COCKERELL Amer. Mus. Nov. no. 452.

Tetrapedia flavopicta sp. n. Yucatan p. 413, COCKERELL Ann. Mag. N.H. (10) 8.

Thrincostoma supplement to revision of Indo-Malayan spp. pp. 285–286, BLÜTHGEN Zool. Jahrb., Syst. 61.

Triepeolus brittaini sp. n. Nova Scotia p. 279, COCKERELL Canad. Ent. 63.

Trigona erythra Schlett. (= *togoensis* Stadelm.) p. 37; *nebulata* Sm. (= *conradi* Fr.) p. 38, HEDICKE Mitt. deuts. ent. Ges. 2.

Xylcopa spp. biology, nests, parasites pp. 754–809 figs., MALYSHEV Z. Morph. Oekol. Tiere 23.—*X. morawitzi* ♂ p. 830; *zonata* f. n. *vulpina* Fergana p. 831, ALFKEN Mitt. zool. Mus. Berl. 16.—*X. violacea* biology p. 45, CATHERINE Bull. Soc. linn. Seine-Marit., Le Havre 15 1929.—*X. pictifrons* status p. 39, var. n. *kelloggi* China p. 40; *aliceae* Morocco p. 209 (10) 7, *barbatella*, *pervirescens* Yucatan p. 417 (10) 8 spp. n., COCKERELL Ann. Mag. N.H.

Sphecoidea.

SPHEGIDAE (s.l.).

Sphegidae of S. Africa, XV, ARNOLD Ann. Transv. Mus. 14 pp. 135–220, 51 figs.

Notes on and synonymy of some American Sphecinae, FERNALD Ann. Ent. Soc. Amer. 24 pp. 439–450.

Annotated list, with keys of the Sphegidae of Finland, PULKKINEN Myrkkypistiäiset Hym. Acul. 1 pp. 1–168, 99 figs.

Amomphila caspica p. 199, *macularis* p. 200, *ferghanica* p. 201, *argentina* p. 202, *tekkensis* p. 206 Transcaspia, *cellularis* Siberia, *rugicollis* Transcaucasia p. 203 spp. n.; *striata* p. 204, *sinensis* p. 207 ♂♂; *sareptana* ♀ p. 205, GUSSAKOVSKIĖ Rev. russe Ent. 24 1930.—*A. altigena* sp. n. Pamirs p. 73, GUSSAKOVSKIĖ Abh. Pamir

Exped. 1928 2 1930.—*A. heydeni* paralyzing prey pp. 412–424, MOLITOR Biol. Zbl. 51.—*A. lateritia* in Centr. Sahara p. 91, ROTH Bull. Soc. Hist. nat. Afr. N. 22.

Ammoplanellus subgen. n. see *Ammoplanus*.

Ammoplanops gen. n. (Sphegidae) p. 457, *carinatus* (type) p. 459, *laticeps* p. 460 Centr. Asia, *tuberculifer* Turkestan p. 461, spp. n., GUSSAKOVSKIĖ Bol. Soc. esp. Hist. nat. 31.

Ammoplanus revision pp. 437–457, key p. 440, *Ammoplanellus* subgen. n. p. 442, *chorasmius* p. 443, *shestakovi* p. 444, *platytarsus* p. 451, *diversipes* p. 452, *transcaspicus* p. 454 Transcaspia, *maidli* N. Africa p. 447, *handlirschi* Austria p. 448, *rbjovi* p. 449, *metatarsalis* p. 452 Caucasus, *sibiricus* Siberia p. 453, spp. n. figs., GUSSAKOVSKIĖ t.c.

Ampulex denticollis r. n. *rufithorax* S.W. Africa p. 205, ARNOLD Ann. Transv. Mus. 14.

Arpactus mimicus sp. n. S.W. Africa p. 206 fig., ARNOLD t.c.

Belomicroides key p. 113, *maurusius* sp. n. Algeria p. 111 fig., PATE Bull. Soc. Hist. nat. Afr. N. 22.

Belomicrus caesariensis sp. n. Algeria p. 113 figs., PATE t.c.—*B. franciscus* sp. n. U.S.A. p. 77, PATE Ent. News 42.

Bembex habits of males pp. 8–17, MINKIEWICZ Polsk. Pismo ent. 10.

Cemonus discussed pp. 81–84, HARTIG Konowia 10.—*C. lethifer* Shuck. (= *littoralis* Wagn., *fuscatus* Wagn., *neglectus* Wagn., *minutus* Wagn.) p. 38, WAGNER Mitt. deuts. ent. Ges. 2.

Cerceris key p. 136, corrections and additions to Dr. Brauns' paper 1926 pp. 148–152, *finjo* p. 149, *holconotula* p. 150, *macalanga*, *arnoldi*, *discrepans* p. 151, *pictifacies* re-described; *ruficauda* r. n. *barbara*; *macololo* r. n. *capensis* p. 152; *nobilitata* r. n. *sordidula*; *discrepans* r. n. *perplexa* p. 153; *varicineta* r. n. *manicana*; *bicuspidata* p. 154, *ludibunda* p. 155, *uncifera* p. 156, *mutabilis* p. 157, *illustris* p. 158, *erynnis* p. 159, *monticola*, *sumptuosa* p. 160, *dejectu* p. 162, *arida*, *placida* p. 163, *arrogans* p. 164, *nephthys* p. 165, *inconspicua* p. 166, *hamiltoni*, *egena* p. 167, *turneri* p. 168, *quadridentata* p. 169, *grata* p. 170, *placida* p. 171,

osiris p. 172, *amatoria* p. 173, *ponderosa*, *hausa* p. 174, *uncta* p. 175, *nugax* p. 176, *horus* p. 177, *isis* p. 178, *ugandensis* p. 179, *vumbui* p. 180 spp. n.; *rufiscutis* r. n. *decolorata* p. 182 Africa figs., ARNOLD Ann. Transv. Mus. 14.—*C. tenuivittata* predacious habits p. 71, DESPAX Bull. Soc. ent. Fr. 1931.—*C. fodiens* EVERS. (= *rossica* Shest.) p. 96, KOLOSOSV Stett. ent. Z. 92.

Crabro palitans ♂ p. 22 fig., SEN Rec. Ind. Mus. 33.—*C. diacanthus* sp. n. Pamirs p. 75, GUSSAKOVSKIĬ Abh. Pamir Exped. 1928 2 1930.—*C. gracilissimus* nesting habits p. 49, DAVIDSON Bull. S. Calif. Acad. Sci., Los Angeles 30.—*C. sapporensis* sp. n. Japan p. 111 fig., MATSUMURA Thous. Ins. Jap. Suppl. 3 1911; English description p. 1 figs., MATSUMURA Ill. Thous. Ins. Jap. 2 (Hym.) 1930.

Dinetomorpha subgen. n. see *Gastrosericus*.

Gastrargyron subgen. n. see *Gastrosericus*.

Gastrosericus revision of Palaearctic spp. pp. 449–457, key p. 449, *maracandicus* subsp. n. *dubius* Persia, Transcaspia p. 453; *shestakovi*, *flavicornis* p. 454, *funereus* p. 455, *marginalis* p. 456 Transcaspia, *mongolicus* Mongolia p. 457 spp. n.; *Dinetomorpha*, *Gastrargyron* subgen. n. p. 451, GUSSAKOVSKIĬ Annu. Mus. zool. Acad. Leningrad 31.

Larra tisiphone ♂ p. 22 fig., SEN Rec. Ind. Mus. 33.

Mellinus arvensis var. n. *ibericus* Portugal p. 7, DUSMET Y ALONSO Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 52.

Mesopalarus turneri sp. n. S.W. Africa p. 205, ARNOLD Ann. Transv. Mus. 14.

Mimesa bicolor prey p. 11, HOBBY Proc. Ent. Soc. Lond. 6.

Oxybelus bipunctatus biology pp. 187–192 fig., CRÈVECOEUR Bull. Ann. Soc. ent. Belg. 71.—*O. fuscohirtus* sp. n. Pamirs p. 76, GUSSAKOVSKIĬ Abh. Pamir Exped. 1928 2 1930.

Passaloecus siamensis sp. n. Siam p. 37, COCKERELL Ann. Mag. N.H. (10) 7.

Pelopeus servilla response to temperature p. 23, BODINE & EVANS Anat. Rec. 51 suppl.

Pemphredon discussed pp. 81–84, HARTTIG Konowia 10; discussion of subgen. *Dineurus* pp. 121–129, BLÜTHGEN Konowia 10.

Philanthus triangulum nests pp. 132–136 figs., VERGNE Bull. Soc. ent. Fr. 1931.

Podolonia luctuosa a colour var. of *violaceipennis* pp. 278–279, FERNALD Canad. Ent. 63.

Psenulus keys to German spp. p. 206, *schencki* Tourn. (= *simplex* Tourn., *longulus* Tourn.) p. 205; *rubicola* n. n. for *atratus* auct. nec F. p. 206, HARTTIG Stett. ent. Z. 92.—*P. laevis* sp. n. Pamirs p. 74, GUSSAKOVSKIĬ Abh. Pamir Exped. 1928 2 1930.

Sceliphron spirifex egg, larva p. 307 figs., GRANDI Boll. Lab. Ent. Bologna 3 1930; nest, cocoon pp. 45–48, GUIGLIA Boll. Soc. ent. ital. 63.

Solierella paradoxa Tauria p. 233, *bactriana* Bukhara, *fusciventris* Transcaspia p. 234, *xanthocera* p. 235 Bukhara spp. n.; *chivensis* ♀ p. 233, GUSSAKOVSKIĬ Rev. russe Ent. 24 1930.

Sphex melas p. 207, *pusillus* p. 209, spp. n. Transcaspia; *oxianus* ♀ p. 208; *chrysopterus*, *minor* ♂ ♂ p. 209, GUSSAKOVSKIĬ t.c.—*S. harti* n. n. for *argentata* Hart nec F. p. 450, FERNALD Ann. Ent. Soc. Amer. 24.—*S.* revision of Argentine spp. pp. 5–26, 79–101, genotype *fossoria* p. 9; *caridei* sp. n. Argentina p. 85, biology p. 87 figs., LIEBERMANN An. Soc. ci. argent. 112.—*S. affinis* habits Ireland pp. 130–133, PALMER & STELFOX Ent. Mon. Mag. 67.

Spilomena fulvicornis Bukhara p. 463, *capitata* Transcaspia p. 464, spp. n., GUSSAKOVSKIĬ Bol. Soc. esp. Hist. nat. 31.

Stizus tridens egg, larva p. 312 figs., GRANDI Boll. Lab. Ent. Bologna 3 1930.

Tachysphex costai egg, larva, pupa p. 327 figs., GRANDI t.c.

Thyreopus alpinus predacious habits, nest, anatomy pp. 83–87 figs., VERGNE Bull. Soc. ent. Fr. 1931.

Trypoxylon albipes ♀ p. 244, RICHARDS Ent. Mon. Mag. 67.

Vespoidea.

Moroccan folded-winged wasps, BEQUAERT J. N.Y. Ent. Soc. 39 pp. 131-137.

BETHYLIDAE

(including DRYINIDAE).

List of Bethylidae and Dryinidae collected in Morocco and Spain, HELLEN Comment. Biol. Soc. Sci. Fenn. 3 1930 no. 11 pp. 1-6, 2 figs.

List of Bethylidae of Br. Columbia, WHITTAKER Mus. Art Notes 5 1930 pp. 127-130, 1 pl.

Cephalonomia waterstoni sp. n. Australia p. 219 figs., GAHAN J. Wash. Acad. Sci. 21.—*C. quadridentata* morphology, biology pp. 425-574 figs., VAN EMDEN Z. Morph. Oekol. Tiere 23.

Echthrodolphax bicolor sp. n. Japan in 59 pp., ESAKI & HASHIMOTO Pub. Ent. Lab. Kyushu Imp. Univ. no. 2.

Gonatopus tenuipes sp. n. Japan in 59 pp., ESAKI & HASHIMOTO t.c.—*G. (Trichogonatopus subgen. n.), lindbergi* Spain p. 2, *ruficollis* Morocco p. 3 spp. n. figs., HELLEN Comment. Biol. Soc. Sci. Fenn. 3 1930 no. 11.

Haplogonatopus japonicus sp. n. Japan in 59 pp., ESAKI & HASHIMOTO Pub. Ent. Lab. Kyushu Imp. Univ. no. 2.

Mesitius hispanicus sp. n. Spain p. 4, HELLEN Comment. Biol. Soc. Sci. Fenn. 3 1930 no. 11.

Plastanoxus key p. 216 figs., GAHAN J. Wash. Acad. Sci. 21.

Trichogonatopus subgen. n. see *Gonatopus*.

SCOLIIDAE.

Campsomeris spp. biology pp. 242-252 figs., LOPEZ Ann. Rep. Res. Bur. Philipp. Sugar Ass. 1930-31.—*C. mansuefacta* sp. n. S. Africa p. 88, distribution p. 89; *mansueta* key to subspp. p. 90, subspp. n. *basilica* Basutoland p. 91, *conciatrix* Fr. Congo p. 92, BRADLEY Mem. Soc. ent. ital. 10.—*C. aureola*, *curvittata* identity discussed p. 167; *aureoloides* (with var. n. *congoensis* Congo, Sierra Leone p. 171) sp. n. Africa p. 168, BRADLEY Ann. Mag. N.H. (10) 8.

Discolia oculata Japan, Formosa p. 123, *hopponis* Formosa p. 124, spp. n. figs., MATSUMURA Thous. Ins. Japan Suppl. 3 1911. See *Scolia*.

Elis ocellata sp. n. Japan p. 125 figs., MATSUMURA Thous. Ins. Japan Suppl. 3 1911; English description p. 3 fig., MATSUMURA Ill. Thous. Ins. Jap. 2 (Hym.) 1930.

Scolia oculata Mats. p. 2, *hopponis* p. 3 from *Discolia*, English descriptions figs., MATSUMURA Ill. Thous. Ins. Jap. 2 (Hym.) 1930.—*S. formosa* morphology, biology pp. 6-9 figs., JARVIS Qd. Agric. J. 35.

Tiphia popillivora biology of Chinese strain in U.S.A. pp. 555-564 figs., HOLLOWAY J. N.Y. Ent. Soc. 39.

MUTILLIDAE.

Ephuta tholosa sp. n. Cuba p. 1, Dow Occ. Pap. Boston Soc. N.H. 8.

Methoca ichneumonides biology p. 63 figs., MAIN Essex Nat. 23.

Mutilla formosana sp. n. Formosa p. 140 figs., MATSUMURA Thous. Ins. Japan Suppl. 3 1911; English description p. 6 fig., MATSUMURA Ill. Thous. Ins. Jap. 2 (Hym.) 1930.—*M. dubia* the type a gynandromorph pp. 54-56 fig., BISCHOFF Mitt. deuts. ent. Ges. 2.

Myrmosa nigrofasciata sp. n. Japan p. 221 figs., YASUMATSU Trans. Sapporo N.H. Soc. 11.

Photopsis retifera sp. n. Haiti p. 2, Dow Occ. Pap. Boston Soc. N.H. 8.

Smicromyrme somalica sp. n. Italian Somaliland p. 45, BISCHOFF Boll. Soc. ent. ital. 63.

Trogaspidia truncativentris subsp. n. somaliensis p. 43; *leucoma subsp. n. hyalinata* p. 44 Italian Somaliland, BISCHOFF t.c.—*T. intermedia* Sauss. (= *aureo-trifasciata* Sich. & Radosz.) p. 92, BISCHOFF Mitt. deuts. ent. Ges. 2.

PSAMMOCHARIDAE (POMPILIDAE).

Psammocharidae from Yucatan, BANKS Bull. Brooklyn Ent. Soc. 26 pp. 131-134.

The tendency to cleptoparasitism among Psammocharidae, CRÉVECOEUR Mém. Soc. ent. Belg. 23 pp. 183-187.

Ageniella persimilis p. 133, *maya* p. 134, spp. n. Yucatan, BANKS Bull. Brooklyn Ent. Soc. 26.

Anospilus grandii Tuscany p. 239, *ater* Sardinia, S. France and Spain p. 240, spp. n., figs., HAUPT Deuts. ent. Z. 1930.

Ceropales revision pp. 1-27, key p. 1, *unicolor* Transcaspia p. 9, *polychloros* Mongolia p. 11, *ruficornis* Persia p. 12, spp. n., GUSSAKOVSKIĖ Annu. Mus. zool. Acad. Leningrad 32.

Notocyphus minimus sp. n. Yucatan p. 131, BANKS Bull. Brooklyn Ent. Soc. 26.

Pedinaspis alternata sp. n. Yucatan p. 132, BANKS t.c.

Pepsis of Ecuador pp. 11-14, CAMPOS Rev. Col. Rocafuerte no. 38-39 1929.

Planiceps bequaerti sp. n. Yucatan p. 131, BANKS Bull. Brooklyn Ent. Soc. 26.

Pompilus spp. morphology, biology pp. 57-75 figs., ESTABLE An. Mus. nac. Montevideo (2) 3 1929.—*P. fallaciosus* p. 130, *abdominalis* p. 132 spp. n. Japan, MATSUMURA Thous. Ins. Jap. Suppl. 3 1911; English descriptions p. 4, figs., MATSUMURA Ill. Thous. Ins. Jap. 2 (Hym.) 1930.

Priocnemis revision of Palaearctic spp. pp. 227-290, key p. 227, *frontalis* Tibet p. 248, *gypposochtonus* Siberia p. 249, *japonicus* Japan p. 252, *corax* Spain p. 257, *occipitalis* Stauropolitana p. 274, *pseudopogonius* E. Siberia p. 277, *mediterraneus* S. France p. 279, *nigricans* Russia p. 252 spp. n.; *festivus* n. n. for *gracilis* Guss. nec Haupt p. 273; *fuscus* subsp. n. *orientalis* Ussuri p. 252, GUSSAKOVSKIĖ Annu. Mus. zool. Acad. Leningrad 31 1930.

Psammochares exornatus p. 235, *mutatus* p. 237, spp. n. Tuscany; *pinguicornis* n. n. for *crassicornis* Haupt nec Shuck. p. 238 figs., HAUPT Deuts. ent. Z. 1930.

Pseudagenia bipennis ♀ p. 21 fig., SEN Rec. Ind. Mus. 33.

Salix terauchii Formosa p. 135, *internalis* p. 136, Suppl. 3 1911, *bizonatus* p. 188 Suppl. 4 1912, spp. n. Japan figs., MATSUMURA Thous. Ins. Japan; English descriptions pp. 5, 65 figs., MATSUMURA Ill. Thous. Ins. Jap. 2 (Hym.) 1930.

EUMENIDAE.

Ancistrocerus domingensis p. 772, *lutzi* p. 778 Santo Domingo, *atkinsi* Cuba p. 775, *olseni* Bahamas p. 782, spp. n., BEQUAERT & SALT Ann. Ent. Soc. Amer. 24.

Eumenes spp. morphological and biological notes pp. 70-75, MÜLLER Mitt. deuts. ent. Ges. 2; geographical and individual variation p. 199 figs., ZIMMERMANN Z. Morph. Oekol. Tiere 22.—*E. pompiliiformis* egg, larva p. 336 figs., GRANDI Boll. Lab. Ent. Bologna 3 1930.—*E. unguiculus* nest p. 55 figs., MAYER Mitt. schweiz. ent. Ges. 15.—*E. coarctata* nest pp. 145-146 figs., LUCAS Entomologist 64.—*E. confusus* (with var. n. *pinetorum* p. 771) sp. n. Cuba p. 768; *abdominalis* var. n. *hispaniolae* Haiti p. 772, BEQUAERT & SALT Ann. Ent. Soc. Amer. 24.

Monobia quadridens cocooning habits pp. 4-6, RAU Bull. Brooklyn Ent. Soc. 26.

Nortonia enslini sp. n. Palestine p. 49, SCHULTHESS Mitt. schweiz. ent. Ges. 15.

Odynerus geographical and individual variation p. 195 figs., ZIMMERMANN Z. Morph. Oekol. Tiere 22.—*O. bermudensis* ♂ p. 277, BEQUAERT Ent. News 42.—*O. haitiensis* sp. n. Santo Domingo p. 783, BEQUAERT & SALT Ann. Ent. Soc. Amer. 24.—*O. spinipes* larva p. 239, SEMICHON Bull. Soc. ent. Fr. 1931.

Rhynchium patrizii sp. n. Dancalia p. 160 fig., GUIGLIA Ann. Mus. Genova 55.—*R. mamillatum* sp. n. Java p. 50 fig., SCHULTHESS Mitt. schweiz. ent. Ges. 15.

MASARIDAE.

Pseudomasaris edwardsii nest p. 23 figs., HICKS Bull. S. Calif. Acad. Sci., Los Angeles 30.

VESPIDAE.

Vespidae of the Fed. Malay States Museums, DOVER J. F.M.S. Mus. 16 pp. 251-260.

Chartergus chartarinus nesting habits pp. 259-261 fig., VERLAINE Miss. biol. Belge Brésil (1922-23) 2 1930.

Icaria shestakowi sp. n. Madagascar p. 51 figs., SCHULTHESS Mitt. schweiz. ent. Ges. 15.

Mischocyttarus bruneri sp. n. Cuba p. 790, BEQUAERT & SALT Ann. Ent. Soc. Amer. 24.

Montezumia burmanica var. n. *malayana* Perak p. 253, DOVER J. F.M.S. Mus. 16.

Pachymeris adyn
Pachymeris scrupeus var. n. *bahamensis* p. 786; *jamaicensis* sp. n. Jamaica p. 787, BEQUAERT & SALT Ann. Ent. Soc. Amer. 24.

Polistes geographical and individual variation pp. 173-230 figs., ZIMMERMANN Z. Morph. Oekol. Tiere 22.—*P. yayeyamae* sp. n. Japan p. 106 figs., MATSUMURA Thous. Ins. Japan Suppl. 3 1911; English description p. 1 fig., MATSUMURA Ill. Thous. Ins. Jap. 2 (Hym.) 1930.—*P. poeyi* var. n. *haitiensis* Santo Domingo p. 792; *crinitus* var. n. *insulicola* St. Kitts; *bahamensis* (with var. n. *bilineolatus* p. 796, *picturatus* p. 797) sp. n. Bahamas p. 793, BEQUAERT & SALT Ann. Ent. Soc. Amer. 24.—*P. rubiginosus* nesting habits, pleometrosis pp. 129-144 figs., RAU Psyche 38.—*P. pallipes* p. 111, *variatus* p. 113, *rubiginosus* p. 115, *annularis* p. 116 nests and nesting sites figs., RAU Bull. Brooklyn Ent. Soc. 26.

Polybia occidentalis scutellaris nesting habits 27 pp. fig., SCHWARZ Amer. Mus. Nov. no. 471.

Pseudovespa morphological and systematic notes pp. 329-346, *Pseudovespula* subgen. n. type *adulterina* Buyss. p. 346, BISCHOFF SitzBer. Ges. naturf. Fr. Berlin 1930.—*P. omissa* Bisch. a valid name p. 66, BISCHOFF Mitt. deuts. ent. Ges. 2.

Pseudovespula subgen. n. see *Pseudovespa*.

Ropalidia delicata sp. n. Pahang p. 257, DOVER J. F.M.S. Mus. 16.

Vespa vulgaris anatomy, histology of alimentary canal pp. 1041-1066 figs., GREEN Proc. Zool. Soc. Lond. 1931.—*V. germanica* nests and associated Rhipiphorids pp. 156-161 fig., DE CASTELLARNAU Bol. Soc. ent. Esp. 14.—*V. omissa* sp. n. Germany, Tyrol p. 6, BISCHOFF Mitt. deuts. ent. Ges. 2.—*V. crabro* habits pp. 123-129, BROMLEY J. N.Y. Ent. Soc. 39; key to forms p. 102, systematic and distribution notes pp. 104-109, c. var. *birulai* n. n. for *chinensis* Bir. nec F. p. 105; var. n. *gribodoi* England p. 107, BEQUAERT Konowia 10.

Vespa sylvestris, norvegica distinct spp. p. 295, distribution, morphology pp. 296-334, genitalia p. 334; *saxonica* a subsp. of *norvegica* p. 305; n. s. ff. n. *ingrica* Ingria p. 309, *monticola* C. Asia

p. 313, *colchica* W. Caucasia p. 314; n. subsp. n. *pacifica* E. Siberia p. 317; *sylvestris* f. n. *intermedia* Transcaucasia p. 327 figs., BIRULA Annu. Mus. zool. Acad. Leningrad 31 1930.

Zethus bahamensis sp. n. Bahamas p. 756, BEQUAERT & SALT Ann. Ent. Soc. Amer. 24.

Chrysididae.

CHRYSIDIDAE.

Habits of some Italian Chrysidids, INVREA Boll. Soc. ent. ital. 63 pp. 54-58.

Chrysis ignita biology pp. 18-24, CHEVALIER Bull. Soc. Sci. Seine-et-Oise, Versailles (2) 12.

Formicoidea

FORMICIDAE.

Notes on Egyptian ants, ALFIERI Bull. Soc. ent. Egypte 1931 pp. 42-48.

List of ants parasitised by Phoridae, BORGMEIER Arch. Inst. biol. S. Paulo 4 p. 215.

List of ants of Jakutsk, KARAWAJEW Zool. Anz. 94 pp. 104-117, 2 figs.

Systematic notes on ants from Baikalia, KARAWAJEW Zool. Anz. 93 pp. 28-32.

The ant fauna of Sweden, KARAWAJEW Trav. Mus. zool. Kiev no. 10 pp. 207-220.

List of ants of Ussuri, KISSELEWA Ber. Tomsker Staats-Univ. 75 1925 pp. 73-75, 1 fig.

Some ants of the Tatra region, Poland, ŁOMNICKI Polsk. Pismo ent. 10 pp. 97-101.

Ants of Cuba and Panama, SANTSOHI Rev. Ent. S. Paulo 1 pp. 265-282, 17 figs.

List of ants from Mediterranean Basin and Morocco, SANTSOHI Comment. Biol. Soc. Sci. Fenn. 3 no. 14 pp. 1-13, 1 fig.

Ants from Argentina, SANTSOHI An. Soc. ci. argent. 112 pp. 273-282, 10 figs.

Ants inhabiting Mt. Egmont, N. Zealand, SMITH N.Z. J. Sci. Technol. 13 pp. 45-47, 1 fig.

An additional annotated list of the ants of Mississippi, SMITH Ent. News 42 pp. 16-24.

Ants of Palau Berhala, STÄRCKE Treubia 12 1930 pp. 371-381, 3 pls. 1 fig.

Ants from Cape Cod, Massachusetts, STURTEVANT Psyche 38 pp. 73-79.

Ants of the Palaearctic part of Japan (1), TERANISHI Trans. Kansai Ent. Soc. 1 1930 pp. 17-26.

List of ants found with Aphids at Basle, WERDER Verh. Naturf. Ges. Basel 42 pp. 88-89.

Acromyrmex bucki sp. n. Brazil p. 106, WASMANN Rev. Ent. S. Paulo 1.

Acropyga decedens Mayr (= *goeldii* For., *pickeli* Borgm.) p. 7 figs., DA COSTA LIMA Bol. biol. fasc. 17.—*A. pickeli* taxonomic notes p. 105, BORGMEIER Rev. Ent. S. Paulo 1.

Alfaria mus sp. n. Panama p. 265, SANTSCHI Rev. Ent. S. Paulo 1.

Anelus punctatus sp. n. E. Africa p. 43 figs., KARAWAJEW Zool. Anz. 95.

Anergates atratulus in Holland p. 42, RAIGNIER Natuurh. Maandbl. 20.

Anochetus bierigi sp. n. Panama p. 268 figs., SANTSCHI Rev. Ent. S. Paulo 1.

Anoplolepis simulans var. n. *biskrensis* Algeria p. 309, KARAWAJEW Zool. Anz. 92.

Antillaemyrmex floridanus sp. n. Florida p. 27, WHEELER Bull. Mus. Comp. Zool. Harvard 72.

Aphaenogaster fulva tropisms pp. 540-547 figs., BARNES J. Gen. Psychology 3 1930; pp. 102-112 figs., BARNES & SKINNER op. cit. 4 1930.

Apsychomyrmex tristani p. 269, *silvestrii* p. 270, spp. n. Costa Rica figs., MENOZZI Boll. Lab. Zool. Portici 25.

Atopodon meermohri sp. n. Palau Berhala p. 375 fig., STÄRCKE Treubia 12 1930.

Aulacopone gen. n., *relicta* sp. n. Russia p. 159 figs., ARNOLDI Rev. russe Ent. 24 1930.

Camponotus sericeiventris key to workers and subsp. p. 89, varr. n. *satrappa* Centr. and S. America p. 92,

holmgreni Bolivia p. 93, *otoquensis* Panama p. 94, *semirex* Honduras, *cualatensis* Mexico, *zacapensis* p. 96, *quiriguensis* p. 97 Guatemala, Honduras fig., WHEELER Psyche 38.—*C. bugnioni* ♀; *sexguttatus* var. n. *perturbans* Colombia p. 63, KUTTER Mitt. schweiz. ent. Ges. 15.—*C. ligniperda* determination of germinal layers pp. 664-734 figs., REITH Z. wiss. Zool. 139.—*C. cruentatus* varr. n. *cruentior*, *lindbergi* Morocco p. 12, SANTSCHI Comment. Biol. Soc. Sci. Fenn. 3 no. 14.—*C. britteni* England p. 129, *ligea* Abyssinia p. 500, spp. n., DONISTHORPE Ann. Mag. N.H. (10) 8.

Cataglyphis albicans subsp. n. *franchetti* Dancalia p. 155 fig., MENOZZI Ann. Mus. Genova 55.

Centromyrmex sculpturatus sp. n. Panama p. 266, SANTSCHI Rev. Ent. S. Paulo 1.

Cerapachys seini sp. n. Porto Rico p. 440 fig., MANN J. Wash. Acad. Sci. 21.

Codioxenus subgen. n. see *Epitritus*.

Crematogaster brevispinosa subsp. *moelleri* var. *malevolens* p. 297; *torosa* var. *goeldii* p. 300; *distans* subsp. *rugiceps* p. 301 ♂♂, ♀♀ figs., GALLARDO Rev. Soc. ent. argent. 3.—*C. concava* further description p. 46, figs., KARAWAJEW Zool. Anz. 95.

Croesomyrmex iris varr. n. *rufithorax* p. 24, *tristis*; *aguayoi* p. 25 (with var. n. *archeri*), *bermudezi* p. 26 (with var. n. *mutabilis* p. 27) spp. n. Cuba; *punicans* Roger described p. 29, WHEELER Bull. Mus. Comp. Zool. Harvard 72.

Cryptoceros multispinus var. n. *cordiventris* Panama p. 274, SANTSCHI Rev. Ent. S. Paulo 1.—*C. iheringi* st. n. *pampaensis* Argentina p. 277, SANTSCHI An. Soc. ci. argent. 112.

Cylindromyrmex key p. 194, *schmidti* sp. n. Costa Rica p. 191 figs., MENOZZI Stett. ent. Z. 92.

Cyphomyrmex rimosus var. *pencosensis* For. a var. of *r. st. transversus* p. 278; *r. st. fuscus* further description p. 279 figs., SANTSCHI An. Soc. ci. argent. 112.

Discothyrea horni worker p. 261, MENOZZI Boll. Lab. Zool. Portici 25.

Dorylus list of known ♀♀ p. 406, *fulvus* queen p. 401, 'rr. and varr.; var. *mordax* n. n. for var. *impressus* Santschi, nec Stitz p. 407 fig., SANTSCHI Bull. Soc. H.n. Afr. N. 22.—*D. fulvus* nest p. 126, NORMAND Bull. Soc. ent. Fr. 1931.

Dorymyrmex subgen. and their scope p. 147, morphological notes on spp. Argentina pp. 143-148 fig., GALLARDO Rev. chil. Hist. nat. 34 1930.

Eciton vagans ♀ p. 188 figs., MENOZZI Stett. ent. Z. 92.—*E. macrodentatus* sp. n. Costa Rica p. 260 fig., MENOZZI Boll. Lab. Zool. Portici 24.—*E. pilosum*, *mexicanum* synonymy p. 296, SMITH J. N.Y. Ent. Soc. 39.

Ectatomma continuum var. n. *panamensis* Panama p. 265 fig., SANTSCHI Rev. Ent. S. Paulo 1.

Engramma taylori Santschi [*taylori* in orig. descr.] translated description p. 42, HOWARD in TAYLOR Ent. Rec. 43.

Epimyrma revision pp. 36-53, key p. 36, habits pp. 49-53, *gösswaldi* sp. n. Germany p. 41 figs., MENOZZI Mem. Soc. ent. ital. 10.

Epitritus (*Codioxenus* subgen. n.) *simulans* sp. n. Cuba p. 278 figs., SANTSCHI Rev. Ent. S. Paulo 1.

Erebomyrma morai sp. n. Costa Rica p. 271 fig., MENOZZI Boll. Lab. Zool. Portici 25.

Euponera nigrita subsp. n. *nigritella* Sumatra p. 379, STÄRCKE Treubia 12 1930.—*E. obsoleta* sp. n. Costa Rica p. 196 fig., MENOZZI Stett. ent. Z. 92.—*E. gilva* var. *harnedi* biology, social life pp. 507-521, HASKINS J. N.Y. Ent. Soc. 39.

Formica spp. behaviour of adults to larvae p. 275, COMBES Ann. Sci. nat. (Zool.) (10) 14.—*F. cinerea* var. n. *sabulosa* Ukraine p. 315, KARAWAJEW Zool. Anz. 92.—*F. rufopratensis* habits pp. 125-137, STÄGER Z. wiss. Insekt-Biol. 26.

Lasius fuliginosus nesting and colony habits pp. 316-321 figs., VERHAGEN Levende Natuur 35.—*L. flavus* foundation of colonies pp. 657-677 figs., EIDMANN Biol. Zbl. 51.

Leptogenys ambigua sp. n. Panama p. 28 7 figs., SANTSCHI Rev. Ent. S. Paulo 1.

Leptothorax tuborum var. n. *nigri-cephala* Sweden p. 212, KARAWAJEW Trav. Mus. zool. Kiev no. 10.—*L. bœpticus* ♀ p. 5; *anacanthus* st. n. *maximus* p. 6; *lindbergi* sp. n. p. 8 Morocco; *niger* st. n. *laestrygon* Sicily p. 7 fig., SANTSCHI Comment. Biol. Soc. Sci. Fenn. 3 no. 14.

Lundella dentiloba sp. n. Panama p. 271, SANTSCHI Rev. Ent. S. Paulo 1.

Macromischa bierigi sp. n.; *lugens* var. n. *nigra* Cuba p. 273 fig., SANTSCHI t.c.—*M. barbouri* p. 176, *torrei* p. 178, *barroi* p. 179 spp. n.; *manni* var. n. *villarensis* p. 177; *aguayo* subsp. n. *natenzoni* p. 179; *wheeleri* subsp. n. *petri* p. 181 Cuba; *foreli* n. n. for *petiolata* For. nec Mayr p. 182, AGUAYO Psyche 38.—*M. sallei* subsp. n. *opac-noda* Haiti p. 7; *azteca* p. 8, *annectens* p. 11 Mexico, *melanocephala* p. 15, *manni* p. 19, *myersi* p. 20, spp. n.; *porphyritis* var. n. *latispina* p. 18 Cuba, WHEELER Bull. Mus. Comp. Zool. Harvard 72.

* *Meranoplus nanus* subsp. n. *similis* E. Africa p. 44 figs., KARAWAJEW Zool. Anz. 95.

* *Messor semirufus* effect of temperature on development pp. 345-385 figs., BODENHEIMER & KLEIN Z. vergl. Physiol. 11 1930.—*M. minor* habits pp. 755-773 figs., EHRHARDT Z. Morph. Oekol. Tiere 20.—*M. antennatus* st. n. *personatus* p. 3; *abelazizi* ♀, ♀ p. 4 Morocco, SANTSCHI Comment. Biol. Soc. Sci. Fenn. 3 no. 14.

* *Myrmecina graminicola* captive colony pp. 46-47, DONISTHORPE Proc. Ent. Soc. Lond. 6.

* *Myrmecinella* see *Xenomyrmex*.

* *Myrmica* systematic notes p. 335; *rubra* L. (= *ruginodis* Nyl.); *laevinodis* var. *europaea* ♂ p. 339; *aloba* (Forel) (= *scabrinodis* var. *aloba* Forel) good sp. p. 340; *scabrinodis* var. n. *turcica* Moldavia p. 343; *scabrinodis rolandi* var. n. *reticulata* p. 344; *sabuleti* var. n. *spinosior* p. 346 Pyrenees; *lobicornis* st. n. *foreli* Tyrol p. 348 figs., SANTSCHI Rev. suisse Zool. 38.—*M. rubra* habits pp. 773-809 figs., EHRHARDT Z. Morph. Oekol. Tiere 20.—*M. koslovi* subsp. n. *ruzskyi* Ussuri p. 75 fig., KISSELEWA Ber. Tomsker Staats-Univ. 75 1925.—*M. scabrinodis saposhnikova* var. n.

baikalensis Baikal p. 28 93; *bergi* var. n. *divergens*; *forcipata* sp. n. Siberia p. 105 94 figs., KARAWAJEW Zool. Anz.

Myrmoteras kuroiwae sp. n. Japan p. 191 fig., MATSUMURA Thous. Ins. Japan Suppl. 4 1912 [in Japanese]; English description p. 66 fig., MATSUMURA Ill. Thous. Ins. Jap. 2 (Hym.) 1930.

Ocymyrmex turneri sp. n. S.W. Africa p. 499, DONISTHORPE Ann. Mag. N.H. (10) 8.

Pheidole innupta sp. n. Costa Rica p. 200 fig., MENOZZI Stett. ent. Z. 92.—*P. pallidula* gynandromorph pp. 114–129 figs., VANDEL Bull. biol. Fr.-Belg. 65.—*P. nitidula* var. n. *daguerrei* Argentina p. 275, SANTSCHI An. Soc. ci. argent. 112.

Phyracaces hewitti sp. n. Sarawak p. 494, DONISTHORPE Ann. Mag. N.H. (10) 8.

Plagiolepis pygmaea var. *taurica* described p. 309; *pallescens* var. n. *elguerrhae* Algeria p. 311; *regis* Daghestan p. 312, *satunini* Armenia p. 314 spp. n. figs., KARAWAJEW Zool. Anz. 92.

Platythyrea thwaitesi sp. n. Ceylon p. 496, DONISTHORPE Ann. Mag. N.H. (10) 8.

Pogonomyrmex cunicularis var. n. *brevispinus* Argentina p. 275, SANTSCHI An. Soc. ci. argent. 112.

Ponera gracilicornis sp. n. Costa Rica p. 197, MENOZZI Stett. ent. Z. 92.—*P. longiceps* p. 262, *creola* p. 263, *faceta* p. 264, spp. n. Costa Rica, key to workers from Costa Rica p. 266 figs., MENOZZI Boll. Lab. Zool. Portici 25.—*P. opaciceps* ergatandrous form pp. 507–509 figs., SMITH & HAUG Ann. Ent. Soc. Amer. 24.

Pristomyrmex africanus sp. n. E. Africa p. 47 figs., KARAWAJEW Zool. Anz. 95.

Pseudomyrma excavata var. n. *fusciceps* Panama p. 271, SANTSCHI Rev. Ent. S. Paulo 1.

Sericomyrmex bierigi sp. n. Panama p. 279, SANTSCHI t.c.

Sima mocquerysi var. n. *biozellata* E. Africa p. 42 figs., KARAWAJEW Zool. Anz. 95.

Solenopsis terricola sp. n. Costa Rica p. 267 fig., MENOZZI Boll. Lab. Zool.

Portici 25.—*S. metanotalis* var. n. *pic-turata* Argentina p. 276; *m. st. shiptoni* var. *steigeri* further description p. 277, SANTSCHI An. Soc. ci. argent. 112.

Stenamma schmidtii sp. n. Costa Rica p. 198 fig., MENOZZI Stett. ent. Z. 92.

Strumigenys revision of American spp. north of Mexico pp. 686–706, keys pp. 688, 691, *louisianae* subsp. n. *laticephala* p. 690; *dictrichi* p. 696, *angulata* p. 697, *missouriensis* p. 701, *creightoni* p. 705, *sculpturata* p. 706 spp. n.; *clypeata* var. n. *laevinasis* p. 701 U.S.A. figs., SMITH Ann. Ent. Soc. Amer. 24.—*S. fusca* st. n. *marginiventris* p. 275; *eggersi* key to varr., var. n. *isthmica* p. 276 Panama; *convexiceps* sp. n. Cuba p. 277 figs., SANTSCHI Rev. Ent. S. Paulo 1.—*S. tristani* sp. n. Costa Rica p. 273 fig., MENOZZI Boll. Lab. Zool. Portici 25.

Tapinoma orientation pp. 46–53 figs., SANTSCHI Acta Soc. ent. Cech. 27 1930.—*T. luridum* subsp. n. *sokolowi* E. Africa p. 50 figs., KARAWAJEW Zool. Anz. 95.

Tetramorium caespitum subsp. n. *annauensis* Transcaspiya p. 315 92; *dogieli* sp. n. E. Africa p. 48 95 figs., KARAWAJEW Zool. Anz.—*T. caespitum* var. n. *barabensis* Omsk p. 288, RUZSKY Ber. Tomsker Staats-Univ. 75 1925; st. *hispanicum* var. *uginodis* ♀ p. 9, SANTSCHI Comment. Biol. Soc. Sci. Fenn. 3 no. 14.

Tetraponera poultoni Uganda p. 497, *scotti* Abyssinia p. 498, spp. n., DONISTHORPE Ann. Mag. N.H. (10) 8.

Trachymyrmex isthmicus p. 280, *uncifer* p. 281, spp. n. Panama, figs., SANTSCHI Rev. Ent. S. Paulo 1.

Wasmannia auropunctata st. n. *pulla* Panama; *glabra* sp. n. Fr. Guiana p. 272, SANTSCHI t.c.

Xenomyrmex For. revision pp. 129–139, characters p. 130, key p. 132 (= *Myrmecine* Wheel.) p. 129; *stolli* subsp. n. *mexicanus* Mexico, *cubanus* Cuba p. 134, *rufescens* Florida, *skwarrae* p. 137, *castus* p. 138 Mexico figs., WHEELER Rev. Ent. S. Paulo 1.

Proctotrupeoidea (Serphoidea).

SCELIONIDAE (including PLATYGASTERIDAE).

Baues latrodicti sp. n. Haiti p. 27, DOZIER Proc. Ent. Soc. Wash. 33.

Bracalba gen. n. (Scelionidae) p. 78, *laminata* (type) p. 79, *cuneata* Queensland spp. n.; *nigrescens* Dodd from *Chromoteleia* p. 80, DODD Proc. Roy. Soc. Qd. 42.

Camptoteleia see *Oxyscelio*.

Ceratoteleia mellicolor p. 357, *gracilis* p. 359, *erana* p. 361, *leucosia* p. 363, spp. n. S. Africa figs., NIXON Eos 7.

Chromoteleia nigrescens see *Bracalba*.

Dicroteleia see *Oxyscelio*.

Dissolcus tetartus notes p. 381 figs., WALL Lingnan Sci. J. 9.

Hadronotus howardi sp. n. Crimea p. 1 figs., MOKRZECKI & OGLOBLIN Polsk. Pismo ent. 10.

Leptoteleia arndti sp. n. Haiti p. 15, DOZIER in ARNDT & DOZIER Bull. Serv. tech. Dépt. Agric. Haiti 26.

Macroteleia key to African spp. p. 367, *aethiops* p. 368, *unicolor* p. 371, *caelebs* p. 374, *orithyla* p. 375, *nebrija* p. 377, *stabilis* p. 378 spp. n. S. Africa; *flavigena* ♂ p. 379 figs., NIXON Eos 7.

Microphanurus megacephalus biological notes pp. 137–139 figs., PRIESNER Bull. Soc. ent. Egypte 1931.

Oxyscelio Kieff. (= *Dicroteleia* Kieff., *Camptoteleia* Kieff., *Xenoteleia* Kieff.), characters p. 72, list of spp. p. 74, DODD Proc. Roy. Soc. Qd. 42.

Platygaster cecconii further description p. 267 figs., FERRIÈRE in DIEUZEIDE Bull. Soc. Hist. nat. Afr. N. 22.

Procacus dubius sp. n. S. Africa p. 365, NIXON Eos 7.

Thelepte gen. n. (Scelionidae) p. 379, *serapis* sp. n. S. Africa p. 380 fig., NIXON Eos 7.

Xenoteleia see *Oxyscelio*.

DIAPRIIDAE (including

BELYTIDAE).

Belyta longicollis ♂ p. 176; *sanguinea* p. 177, *boreale*, *anthracina* p. 179, *excavata* p. 180 spp. n. Br. Columbia, WHITTAKER Proc. Ent. Soc. Wash. 33.

Brunnicophilus gen. n. (Belytidae), *donisthorpei* sp. n. England p. 83, NIXON Ent. Rec. 43.

Diphora nearctica ♂ p. 181, WHITTAKER Proc. Ent. Soc. Wash. 33.

Labidopria gen. n. (Diapriidae), *longicornis* sp. n. Brazil p. 94 (note), WASMANN Ameisenmimikry (Abh. theor. Biol. 19) 1925.

Labolips anommati sp. n. England p. 15, MORLEY Entomologist 64.

Loxotropa morlei sp. n. England p. 15, MORLEY t.c.

Paramesius spinulosus n. n. for *spinosus* Kieff. nec Ashm. p. 14, MORLEY t.c.

Phaenopria minima p. 69, *longiclava* p. 71, spp. n. Italy, MASI Boll. Soc. ent. ital. 63.

PROCTOTRUPIDAE (SERPHIDAE).

Carabiphagus gen. n. for *Proctotrupes laevifrons* Forst. p. 14, MORLEY Entomologist 64.

Proctotrupes laevifrons see *Carabiphagus*.

Chalcidoidea.

Annotated list of Chalcidids of Elbeuf Museum, COULON Bull. Soc. Sci. nat. Elbeuf 49 pp. 73–86.

AGAONIDAE.

Ceratosolen marshalli sp. n. Fiji p. 8 figs., GRANDI Boll. Lab. Ent. Bologna 4.

Sycophaga sycomori biology p. 183 figs., CARMIN & SCHEINKIN Bull. Soc. ent. Egypte 1931.

TORYMIDAE (CALLIMOMIDAE).

Contribution to the knowledge of Danish Callimomidae with keys to European spp. (contd.), HOFFMEYER Ent. Medd. 17 pp. 261–285, 11 figs.

Megastigmus suspectus var. n. *pinsapis* Spain p. 264, HOFFMEYER Ent. Medd. 17.

Monodontomerus aereus morphology, biology pp. 445–459 figs., MUESEBECK J. Agric. Res. 43.

Pseudotorymus krygeri sp. n. Denmark p. 261 fig., HOFFMEYER Ent. Medd. 17.

CHALCIDIDAE.

Brachymeria aegyptiaca sp. n. Egypt p. 216; *somalica* a Palaearctic sp. p. 217, MASI Bull. Soc. ent. Egypte 1930.

Trigonura rubens further description p. 214, MASI t.c.

EURYTOMIDAE.

Decatoma similacis sp. n. Japan ~~pp. 132-133~~ figs., ISHII Kontyû 5.

Eurytoma verbena Italian Somaliland p. 127, *syleptae* Sierra Leone p. 128, spp. n., FERRIÈRE Bull. Ent. Res. 22.—*E. amygdali* bionomics pp. 166-178 figs., PUZANOV-MALYSHEV Rev. russe Ent. 24 1930.

Harmolita samarica sp. n. Samara p. 192 fig., CHESNOKOV Rev. russe Ent. 24 1930.

Prodecatoma solani sp. n. Brazil p. 307 fig., BONDAR Bol. Mus. nac. Rio de Janeiro 6 1930.

EUPELMIDAE.

Anastatus myrmecobius sp. n. Cuba p. 215 fig., FERRIÈRE Bull. Soc. ent. Fr. 1931.

ENCYRTIDAE (including

APHELINIDAE).

Achrysopophagus characters distinguishing from *Prochiloneurus* p. 224, *aegyptiacus* sp. n. Egypt p. 225, key p. 227 figs., MERCET Bull. Soc. ent. Egypte 1930.

Aphytis mytilaspidis and *diaspidis* characters of and spp. in groups p. 5; *abnormis* further description p. 6, MERCET Eos 7.

Baeoanusia African spp. pp. 257-264, key, *oleae* Silv. from *Bothriothorax* p. 258, biology, adults pp. 259-263; *minor* Silv. (= *africana* Gir.) from *Bothriothorax* p. 263, biology p. 264 figs., COMPERE Univ. Calif. Pub. Ent. 5.

Bothriothorax oleae, minor see *Baeoanusia*.

Centrodora idiocera sp. n. Java p. 286, FERRIÈRE Bull. Ent. Res. 22.

Coccophagus key to European spp. p. 407, *inaron* Wlk. (= *krygeri* Merc.) p. 400 figs., MERCET Eos 7.—*C. baldassarii* p. 252, *eritreaensis* p. 254, spp. n. Eritrea, COMPERE Univ. Calif. Pub. Ent. 5.—*C.* revision, re-descriptions 132 pp.,

key to allied genn., characters p. 5, key to ♀♀ p. 11, *timberlakei* U.S.A. p. 28, *lepidus* p. 23, *mariformis* p. 36, *flaviceps* p. 39, *specialis* p. 46, *pulvinariae* p. 53, *isipingoensis* p. 57, *lutescens* p. 67, *bivittatus* p. 73, *margaritatus* p. 76, *nigritus* p. 81, *spectabilis* p. 86, *speciosus* p. 88, *clavellatus* p. 89, *robustus* p. 96 S. Africa, *tarongaensis* p. 35, *gregarius* p. 45 Australia, *cubaensis* Cuba p. 53, *tibialis* Philippines p. 56, *ishii* Japan p. 103, *silvestrii* China p. 111 spp. n.; *modestus* var. n. *capensis* S. Africa p. 83; *pantherinus* Giraud nom. nud. p. 115; *bogoriensis* Kôn. (= *javae* Gir.) p. 51; *lecanii* Fitch (= *californicus* How.) synonymy p. 59, key to ♂♂ of allied spp. p. 60; *fuscipes* How. (= *fraternus* How.) p. 61; *albicoxa* How. (= *coxalis* Gir.) (GAHAN) p. 91; *pulchellus* Westw. p. 100, *cowperi* Gir. p. 57, *modestus* Silv. p. 82 good spp.; *scutellaris* Dalm. (= *australensis* Gir.) p. 100; *tennysoni* Girault nom. nud. p. 11 figs., COMPERE Proc. U.S. Nat. Mus. 78 no. 2850.—*C.* see *Prospaltella*; *subochraceus* see *Euxanthellus*.

Diversinervus revision pp. 233-245, key p. 234, *scutatus* p. 235, *meridionalis* p. 237 Natal, *desantisi* Eritrea p. 239 spp. n.; *elegans* Silv. (= *bicristatus* Gir.) p. 241, biology, eggs, taxonomy of adults pp. 242-245 figs., COMPERE Univ. Calif. Pub. Ent. 5.

Doloresia see *Encarsia*.

Encarsia Först. (= *Doloresia* Merc.) p. 220, *tricolor* Först. (= *conjugata* Merc.); *indifferentis* sp. n. Egypt p. 221 figs., MERCET Bull. Soc. ent. Egypte 1930.—*E. cubensis* sp. n. Cuba p. 121, GAHAN Proc. Ent. Soc. Wash. 33.

Eretmocerus mundus sp. n. Italy, Spain p. 395 fig., MERCET Eos 7.

Euxanthellus subochraceus How. from *Coccophagus* p. 11, COMPERE Proc. U.S. Nat. Mus. 78 no. 2850.

Leptomastix abyssinica sp. n. Eritrea p. 267 fig., COMPERE Univ. Calif. Pub. Ent. 5.

Neodiscodes gen. n. (Encyrtidae) p. 272, *martinii* sp. n. Eritrea p. 274 fig., COMPERE t.c.

Ooencyrtus key to S. Asian spp., *malayensis* p. 282, *corbetti*, *erionotae* p. 284 Malay Peninsula, *major* Java p. 285, spp. n. figs., FERRIÈRE Bull. Ent. Res. 22.

Prochiloneurus characters distinguishing from *Achrysopophagus* p. 224, MERCET Bull. Soc. ent. Egypte 1930.

Prospaltella key to European spp. p. 562, *lutea* p. 559, *aspidioticola* p. 563 ♂♂; *caelibaris* (M.) Spain p. 561, *aleurochitonis* (NOWICKI) Poland p. 666 spp. n. figs., MERCET Bol. Soc. esp. Hist. nat. 31.—*P.* 22 of Girault's spp. from *Coccophagus*; *sophia* Gir. & Dodd, *clarus* Dodd from *Coccophagus* p. 11, COMPERE Proc. U.S. Nat. Mus. 78 no. 2850.—*P. sublutea* sp. n. Somaliland p. 20 figs., SILVESTRI Boll. Soc. ent. ital. 63.

Psyllaephagus phytolymae sp. n. Nigeria p. 129 fig., FERRIERE Bull. Ent. Res. 22.

Trichaporus Först. discussed p. 564, *margaritiventris* sp. n. (NOWICKI) Poland p. 565, MERCET Bol. Soc. esp. Hist. nat. 31.

Tropidophryne gen. n. (Encyrtidae) p. 269, *africana* sp. n. Natal p. 271 fig., COMPERE Univ. Calif. Pub. Ent. 5.

PTEROMALIDAE (including

MISCOGASTERIDAE).

Systematic notes on Eunotini (list of gen. and spp. p. 416), MASI Eos 7 pp. 411–459, 6 figs.

Acroclisoides indicus sp. n. Dehra Dun p. 279 fig., FERRIERE Bull. Ent. Res. 22.

Agiommatius acherontiae sp. n. Dehra Dun p. 280, FERRIERE t.c.

Enargopelte hispanica sp. n. Spain p. 451, MASI Eos 7.

Eugastropelte gen. n. for *Scutellista gigantea* Berl. p. 452, MASI t.c.

Eunotellus subgen. n. see *Eunotus*.

Eunotus key, *Eunotellus* subgen. n. p. 424, *obscurus* Giraud re-description p. 428; *merceti* Spain p. 433, *parvulus* Austria p. 435, *aquisgranensis* Aachen p. 437 spp. n. figs., MASI Eos 7.

Eupteromalus nidulans morphology, biology pp. 37–56 figs., PROPER J. Agric. Res. 43.

Eutelus tamaricum sp. n. Algeria p. 267 figs., FERRIERE Bull. Soc. Hist. nat. Afr. N. 22.

Habrocytus lividus sp. n. Colorado p. 37, GAHAN J. Wash. Acad. Sci. 21.—*H. sazeseni* oviposition pp. 695–696, VOUKASSOVITCH H. & P. C.R. Soc. Biol. 106.

Nasonia brevicornis biology of ♂ p. 306, DAUTERT-WILLIMZIK Zool. Anz. 93.

Neocatolaccus spheopteræ sp. n. Sudan p. 130, FERRIERE Bull. Ent. Res. 22.

Polyscelis modestus seasonal history, morphology pp. 182–184 figs., HILL & SMITH Proc. Ent. Soc. Wash. 33.

Pteromalus puparum fertility, reproduction pp. 53–67 figs., ZORIN Plant Prot. 7.

Scutellista gigantea see *Eugastropelte*.

Stenomalus micans larval, pupal anatomy, life-history pp. 380–395 figs., KEARNS Parasitology 23.

ELASMIDAE.

Elasmus leucopteræ Tanganyika, *flaviceps* Sudan spp. n. p. 131; *masii* var. n. *natalensis* Natal p. 132, FERRIERE Bull. Ent. Res. 22.—*E. flabellatus* oviposition p. 696, VOUKASSOVITCH H. & P. C.R. Soc. Biol. 106.

EULOPHIDAE.

Achrysocharis promecotheae sp. n. Java p. 289 fig., FERRIERE Bull. Ent. Res. 22.

Allomphale see *Euderus*.

Aprostocetus roseveari sp. n. Nigeria p. 134 fig., FERRIERE Bull. Ent. Res. 22.

Entedon tachypterelli sp. n. Colorado p. 38, GAHAN J. Wash. Acad. Sci. 21.

Euderus Hal. (= *Allomphale* Silv.) *gossypii* sp. n. Sudan p. 132 fig., FERRIERE Bull. Ent. Res. 22.

Euplectrus bicolor biology pp. 99–105 figs., ZIMIN Bull. N. Cauc. Plant Prot. Sta. 6–7 1930.

Pareuderus gen. n., *torymoides* sp. n. Java p. 287 fig., FERRIERE Bull. Ent. Res. 22.

Pleurotropis benefica morphology, biology pp. 534–541 figs. SALT Bull. Ent. Res. 22.

Tetrastichus schoenobii Malay Peninsula p. 290, *gardneri* Dehra Dun p. 291, spp. n. figs., FERRIÈRE Bull. Ent. Res. 22.—*T. gentilei* sp. n. Italy p. 134 figs., DEL GUERCIO Redia 19.—*T. ardisiae* sp. n. Japan in pp. 132–138 figs., ISHII Kontyû 5.—*T. eriophyes* morphology pp. 45–52 figs., WATERSTON Marcellia, Avellino 27.

MYMARIDAE.

Anagrus bartheli sp. n. Sweden p. 8 figs., TULLGREN Medd. CentAnst. Försöks. Jordbr. Stockholm no. 132 (Ent. Avd. 24) 1916.

Anaphoidea calendrae morphology, biology pp. 171–190 figs., SATTERTHWAIT J. N.Y. Ent. Soc. 39.

Dicopus cervus sp. n. England p. 16, MORLEY Entomologist 64.

Ooctonus fuscipes p. 189, *auripes* p. 190, *canadensis*, *occidentalis* p. 191 spp. n. Br. Columbia, key to Nearctic spp. p. 192, WHITTAKER Proc. Ent. Soc. Wash. 33.

Polynema elisabethae sp. n. Java p. 294 fig., FERRIÈRE Bull. Ent. Res. 22.—*P. valkenburgensis* sp. n. Holland p. 34 figs., SOIKA Natuurh. Maandbl. 20.

TRICHOGRAMMATIDAE.

Abbella mariellae sp. n. Malay Peninsula p. 292 fig., FERRIÈRE Bull. Ent. Res. 22.

Haeckeliana brontispae sp. n. Java p. 293 fig., FERRIÈRE t.c.

Oligosita nigromaculata sp. n. Holland p. 24 figs., SOIKA Natuurh. Maandbl. 20.

Stephanotheisa gen. n., *vitoldi* sp. n. Holland p. 111 figs., SOIKA t.c.

Trichogramma minutum temperature relationships and racial segregation pp. 395–406 figs., FLANDERS Hilgardia 5.—*T. cacaeciae* seasonal dimorphism and effect of cold on micropterism p. 316, MARCHAL C.R. Acad. Sci. Fr. 192.

Cynipoidea.

CYNIPIDAE.

List of Cynipidae of Iceland, HELLÉN Göteborgs VetenskSamh. Handl. (5B) 2 no. 5 pp. 1–8.

Study of Japanese Cynipidae, MONZEN Oyo-Dobuts. Zasshi 3 pp. 192–200.

Synopsis of British Cynipidae, MORLEY Entomologist 64 pp. 150–153, 183, etc., 1 fig.

Cynipid oak galls in Surrey during 1930, NIBLETT Lond. Naturalist 1930 pp. 141–142.

Cynipids of the Spanish Peninsula, with keys (contd.), TAVARES Brotéria, Sér. Zool. 27 pp. 5–100, 4 pls. 36 figs.

Acantheucoela Ashm. (= *Gonieucoela* Kieff.) p. 222, WELD Proc. Ent. Soc. Wash. 33.

Alloxyta ruthei p. 4, *islandica* p. 5, spp. n. Iceland, HELLÉN Göteborgs VetenskSamh. Handl. (5B) 2 no. 5.

Amphibolips (= *Trissandricus* Kieff.) *spongifica* O.S. (= *maculipennis* Kieff.) p. 224, WELD Proc. Ent. Soc. Wash. 33.

Andricus seminationis gall pp. 137–138, Ross Lond. Naturalist 1930.

Aulacidea andrei new to Britain p. 243, BAGNALL Ent. Mon. Mag. 67.

Biorhiza pallida biology pp. 58–102 figs., PICARD Bull. biol. Fr.-Belg. 65.

Bothrochacis Cam. (= *Salpictes* Kieff.) p. 223, WELD Proc. Ent. Soc. Wash. 33.

Callirhytis corrugis Bass. (= *defecta* Kieff.) p. 225, WELD t.c.

Calofigites placed in *Anacharitinae* p. 222, WELD t.c.

Cynips spp. gall-forming habits Yugoslavia pp. 350–354 figs., VAN DRIESSCHE Ann. Gembloux 37.—*C. quercus-rubrae* see *Diplolepis centricola*.

Diceraea see *Zygosis*.

Diplolepis centricola O.S. (= *Cynips quercus-rubrae* Karsch) p. 224, WELD Proc. Ent. Soc. Wash. 33.

Eucoila Westw. (= *Lytosema* Kieff.) p. 222, WELD t.c.

Eutrias Först. status discussed p. 224, WELD t.c.

Gonieucoela see *Acantheucoela*.

Kleidotoma Westw. (= *Schizosema* Kieff.) p. 223, WELD Proc. Ent. Soc. Wash. 33.

Lambertonia see *Omalaspis*.

Lytosema see *Eucoila*.

Omalaspis Giraud (= *Lambertonia* Kieff.) *norica* Gir. (= *abnormis* Kieff.) p. 221, WELD Proc. Ent. Soc. Wash. 33.

Perischus gen. n. p. 225, *boliviensis* sp. n. Bolivia p. 226 fig., WELD t.c.

Rhodites sp. biology in Central Asia pp. 43-58 fig., KUZNETZOV-UGAMSKII Rev. zool. russe 10 no. 3 1930.

Salpictes see *Bothrochacis*.

Schizosema see *Kleidotoma*.

Trichagalma serratae Ashm. (= *drouardi* Mayr) in pp. 192-200, MONZEN Oyo-Dobuts. Zasshi 3.

Trissandricus see *Amphibolips*.

Zygosia Först. (= *Diceraea* Först.) p. 221, *urticeti* Dahl. (= *heteropterus* Htg.) p. 222, WELD Proc. Ent. Soc. Wash. 33.

Ichneumonoidea.

AGRIOTYPIDAE.

Agriotypus gracilis biology pp. 29-37 figs., CLAUSEN Proc. Ent. Soc. Wash. 33.

TRIGONALIDAE.

Orthogonalos biology of some spp. pp. 72-81 figs., CLAUSEN Proc. Ent. Soc. Wash. 33.

Poecilogonalos biology of some spp. pp. 72-81 figs., CLAUSEN t.c.

ICHNEUMONIDAE.

List of 21 Ichneumonids and their hosts from Germany, BAUER Ent. Anz., Vienna 11 pp. 380-384.

Revision of Cryptinae of Spain, CEBALLOS Trab. Mus. Cienc. Madrid Zool. 56 206 pp. 102 figs.

List of Ichneumonidae of Dorset and Hampshire, HAINES Trans. Ent. Soc. S. Engl. 7 pp. 1-34.

Ichneumonidae from Ussuri, MEIER Annu. Mus. zool. Acad. Leningrad 31 1930 pp. 165-180, 4 figs.

Revision of Anomalonini with keys, MEIER Konowia 10 pp. 3-14, 4 figs.

Biology and systematics of S. Chinese Ichneumonidae, MELL & HEINRICH Z. angew. Ent. 18 pp. 371-403, 3 figs.

Material for the Ichneumonid fauna of Lettland, I, OZOLS Folia zool. hydrobiol. 3 pp. 175-191, 1 pl.

List of Ichneumonids of Iceland, ROMAN Göteborgs VetenskSamh. Handl. (5B) 2 no. 4 pp. 1-11.

Pimplinae and Tryphoninae from Kamtchatka, ROMAN Ark. Zool. 23A no. 6 pp. 1-32.

German genera and spp. of Anomaloninae with keys, SCHMIEDEKNECHT Naturw. Z. Forst- u. Landwirt. 14 1916 pp. 97-116, 4 figs.

Revision of Palaearctic Cryptinae, contd., SCHMIEDEKNECHT Opusc. Ichn. suppl. 10, 11 & 12.

List of 196 Ichneumonids bred from various insects in Saxony, SCHÜTZE & ROMAN Isis Budissina 12 sep. pp. 1-9.

Notes on the Ichneumonids of Upper Silesia (contd.), TORKA Z. wiss. Insekt-Biol. 26 pp. 9-25.

Additions to the Cryptine fauna of Formosa, UCHIDA J. Fac. Agric. Hokkaido Imp. Univ. 30 pp. 163-193, 1 pl. 15 figs.

Contribution to the Banchini of Japan, UCHIDA Ins. mats. 6 pp. 45-54.

Acroricnus ambulator f. n. *rufiabdominalis* Formosa p. 167 fig., UCHIDA J. Fac. Agric. Hokkaido Imp. Univ. 30. —*A. tarsalis* see *Nipporicnus*.

Alomya discussed p. 29, HEINRICH Konowia 10.

Amblyteles radoszkowskii ♂ ♀ further described p. 31, HEINRICH Mitt. deuts. ent. Ges. 2.—*A. veressi* see *Euichneumon*; *elongatus* see *Limerodes unilineatus*.

Anilastus validus sp. n. Germany p. 154, PFANKUCH Ent. Jahrb. 1921.

Anisobas bulsanensis see *Ichneumon ridibundus*.

Apophysius unicolor sp. n. Formosa p. 191 fig., UCHIDA J. Fac. Agric. Hokkaido Imp. Univ. 30.

Arenetra caliginosa p. 168, *hirsutula* p. 169, *occulta* p. 170, *vernalis* p. 171 spp. n. Canada; *canadensis* further description p. 170, WALLEY Canad. Ent. 63.

Arotes nigripes sp. n. Ussuri p. 174, MEIER Annu. Mus. zool. Acad. Leningrad 31 1930.

Astiphromma nigrum sp. n. Germany p. 156, PFANKUCH Ent. Jahrb. 1921.

Banchus F. (= *Nawaia* Ashm.) p. 51, UCHIDA Ins. mats. 6.—*B. sibiricus* Mey. status discussed p. 29, ROMAN Ark. Zool. 23A no. 6.

Barichneumon disparis var. n. *monachae* N. Poland p. 29, HEINRICH Mitt. deuts. ent. Ges. 2.

Barylypa sibirica sp. n. Ussuri p. 177, MEIER Annu. Mus. zool. Acad. Leningrad 31 1930.

Bioleter gen. n. (nr. *Norides*) p. 169, *eous* sp. n. Ussuri p. 170 figs., MEIER t.c.

Caenocryptus tamahonis sp. n. Formosa p. 171 fig., UCHIDA J. Fac. Agric. Hokkaido Imp. Univ. 30.

Callajoppa pepsoides Sm. (= *Trogus arrogans* Sm.) p. 30, HEINRICH Konowia 10.

Calliephialtes mucicola p. 5, *benefactor* p. 6, spp. n. U.S.A., CUSHMAN Proc. U.S. Nat. Mus. 79 no. 2880.

Campoplex pyraustae sp. n. France p. 257 figs., SMITH Boll. Lab. Zool. Portici 25.

Camptothlipsis characters, key, *furtifica* India p. 395, *antigastrae* Sudan p. 396 spp. n., WILKINSON Bull. Ent. Res. 22.

Carinodes jukatanensis Cam., *subserians* Cam. from *Ichneumon* p. 31, HEINRICH Konowia 10.

Collyria calcitrator morphology, biology pp. 506–519 figs., SALT Bull. Ent. Res. 22; colonisation in Canada pp. 547–550, SMITH Bull. Ent. Res. 22.

Colpotrochioides flavus sp. n. Japan p. 145 fig., UCHIDA Ins. mats. 5.

Cratichneumon Thoms. (= *Lareiga* Cam.) p. 32, *cameroni* n. n. for *rufifemoratus* Cam. p. 33, HEINRICH Konowia 10.

Cressonianus see *Matara*.

Cryptanura pachymenae see *Photocryptus*.

Cryptanuridimorpha elegans see *Polycyrtus*.

Cryptaulax coreanus Szép. (= *Cryptus trirrhogmaniformis* Sonan) p. 177, UCHIDA J. Fac. Agric. Hokkaido Imp. Univ. 30.

Cryptopterigimorpha see *Polycyrtus*.

Cryptus kankoensis p. 169, *horishanus* p. 170, spp. n. Formosa figs., UCHIDA J. Fac. Agric. Hokkaido Imp. Univ. 30.—*C. seductorius* biology p. 111, APTEL Bull. Soc. Sci. nat. Nîmes 46 1928–29.—*C. diana* Grav. (= *bolivari* Kriechb.) p. 77, CEBALLOS Trab. Mus. Cienc. Madrid Zool. 56.—*C. trirrhogmaniformis* see *Cryptaulax coreanus*.

Cteniscus flavomaculatus synonymy of and key to var. p. 14, ROMAN Ark. Zool. 23A no. 6.

Ctenocharides melli sp. n. China p. 403, /a HEINRICH Z. angew. Ent. 18.

Ctenopelma boreale Hlgr. good sp. (= *gagatinum* Kriechb. and var. *dispar* Ulbr.) p. 20, ROMAN Ark. Zool. 23A no. 6.

Diaborus inversus sp. n. Sweden p. 28, ROMAN K. sven. Vet. Skrift. Natursk. 17.

Echthrus reluctator var. n. *sibirica* Ussuri p. 168, MEIER Annu. Mus. zool. Acad. Leningrad 31 1930.

Ectopimorpha luperinae sp. n. U.S.A. p. 1, CUSHMAN Proc. U.S. Nat. Mus. 79 no. 2880.

Eiphosoma paraguayense Paraguay p. 7, *batatae* Brazil p. 8, spp. n., CUSHMAN t.c.

Epirhyssa rossica sp. n. Ussuri p. 171 fig., MEIER Annu. Mus. zool. Acad. Leningrad 31 1930.

Epiurus nankingensis sp. n. China p. 157, UCHIDA Ins. mats. 5.—*E. brevicornis* Gr. (= *bicoloripes* Ashm.); *depositor* f. n. *kamtschaticus* Kamchatka p. 4, ROMAN Ark. Zool. 23A no. 6.

Euchneumon sarcitorius rr. and allied spp. pp. 27–29, subsp. n. *turcestanicus* Turkestan p. 28; *veressi* Kiss from *Amblyteles* p. 29; *caedator* Gr. ♂ synonymy discussed p. 30; *latitarsis* subsp. n. *baicalensis* Lake Baikal p. 31, HEINRICH Mitt. deuts. ent. Ges. 2.

Euryproctus luteicornis ♂ p. 158, PFANKUCH Ent. Jahrb. 1921.

Exenterus oleaceus sp. n. Japan p. 146, UCHIDA Ins. mats. 5.

Exetastes Grav. (= *Pseudexetastes* Meyer), key to Japanese spp. p. 46, *sapporensis* sp. n. p. 49; *longigenus* f. n. *rebunensis* Japan; *ishikawensis* ♂ p. 50, UCHIDA op. cit. 6.—*E. tibialis* sp. n. Germany p. 154, PFANKUCH Ent. Jahrb. 1921.

Exochilum crassitarsis sp. n. Mongolia p. 13, MEIER Konowia 10.

Formocryptus gen. n. (Phygadeuonini), *tenuicornis* sp. n. Formosa p. 192 fig., UCHIDA J. Fac. Agric. Hokkaido Imp. Univ. 30.

Formostenus subgen. n. see *Mesostenus*.

Gambrus rufithorax sp. n. Formosa p. 172 fig., UCHIDA J. Fac. Agric. Hokkaido Imp. Univ. 30.

Glypta leucotretae sp. n. S. Rhodesia p. 393, WILKINSON Bull. Ent. Res. 22.

Hemiteles hemipterus morphology, biology pp. 496–504 figs., SALT Bull. Ent. Res. 22.

Henicospilus asiaticus sp. n. Ussuri p. 176 fig., MEIER Annu. Mus. zool. Acad. Leningrad 31 1930.

Holcjooppa testacea Szépl. (= *flavipennis* Cam.) p. 31, HEINRICH Konowia 10.

Holocremnus ruficornis sp. n. Germany p. 156, PFANKUCH Ent. Jahrb. 1921.

Homocidus akaashii sp. n. Korea pp. 56 and 24, UCHIDA in TAKAGI Bull. For. Expt. Sta. Govt.-Gen. Chosen 12.

Hoplismenus violentus Grav. (= *Pseudoplatylabus caudatus* Sm. v. Bur.) p. 30; *astarti* Cam. from *Ichneumon* p. 32, HEINRICH Konowia 10.

Ichneumon ridibundus Grav. (= *Anisobas bulsanensis* Sm. v. Bur.) p. 30; HEINRICH t.c.—*I. albiger* var. n. *lindrothi* Iceland p. 5, ROMAN Göteborgs VetenskSamh. Handl. (5B) 2 no. 4.—*I. angulosus* from *Matsumurais*, English descriptions p. 36 fig., MATSUMURA Ill. Thous. Ins. Jap. 2 (Hym.) 1930.—*I. jukatanensis*, *subserians* see *Carinodes*; *astarti* see *Hoplismenus*; *notabilis*, *carinifrons* see *Matara*.

Joppites metallicus see *Stenophorus vigilator*; *madecassa* see *S. amoenus*.

Lareiga see *Cratichneumon*.

Leptocryptus bellulus morphology p. 504, SALT Bull. Ent. Res. 22.

Limerodes unilineatus Grav. (= *Amblyteles elongatus* Meier) p. 32, HEINRICH Mitt. deuts. ent. Ges. 2.

Lindigia immaculata see *Neotrichneumon*.

Lissonota magdalenae sp. n. Germany p. 152, PFANKUCH Ent. Jahrb. 1921.

Macrojoppa excellens Cam. from *Trogus* p. 33, HEINRICH Konowia 10.

Mansa Tosq. (= *Pseudomansa* Szép.) p. 167, *latiscutis* Cam. (= *minor* Szép.) p. 168, UCHIDA J. Fac. Agric. Hokkaido Imp. Univ. 30.

Matara Hlmg. (= *Cressonianus* Ashm.), *notabilis* Cam., *carinifrons* Cam. from *Ichneumon* p. 32, HEINRICH Konowia 10.

Matsumurais angulosus sp. n. Japan p. 95 fig., MATSUMURA Thous. Ins. Japan Suppl. 4 1912. See *Ichneumon*.

Meniscus plantarius var. n. *nigripes* Ussuri p. 173, MEIER Annu. Mus. zool. Acad. Leningrad 31 1930.

Mesochorus facialis var. n. *nigristemmaticus* China p. 158, UCHIDA Ins. mats. 5.

Mesoleius patagiatus Hlgr. (= *modestus* Hlgr., *signator* Rom.) p. 25, ROMAN Ark. Zool. 23A no. 6.

Mesostenus key to subgen. p. 179, *Formostenus* subgen. n., *angularis* p. 180, *concavus* p. 182, *subpentagonalis* p. 183, *takanoi* p. 185, *hyalinoides* p. 186, *nigribasalis* p. 187, *issikii* p. 188 spp. n. Formosa; *octocinctus* Ashm. (= *formosanus* Szép.) p. 180 figs., UCHIDA J. Fac. Agric. Hokkaido Imp. Univ. 30.—*M. capitator*, *semialbus* see *Polycyrtus*.

Microcryptus revision of Palaearctic spp., SCHMIEDEKNECHT Opusc. Ichn. suppl. 12.—*M. varius* p. 149, *vezator* p. 150, spp. n. Germany, PFANKUCH Ent. Jahrb. 1921.—*M. chosensis* pp. 60 and 29, *rufibasalis* pp. 61 and 29, spp. n. Korea, UCHIDA Bull. For. Expt. Sta. Govt.-Gen. Chosen 12.

Microplectron quadriceps sp. n. Japan p. 147, UCHIDA Ins. mats. 5.

Monoblastus tagakii (with var. n. *nigrianalalis* pp. 57 and 25) sp. n. Korea pp. 56 and 24 figs., UCHIDA Bull. For. Expt. Sta. Govt.-Gen. Chosen 12.

Nawaia see *Banchus*.

Nemeritis canescens oviposition p. 696, VOUKASSOVITCH H. & P. C.R. Soc. Biol. 106; biology of ♂ p. 274, DAUTERT-WILLIMZIK Zool. Anz. 93.

Neotropichneumon immaculata Morl. from *Lindigia* p. 32, HEINRICH Konowia 10.

Neotypus sinister sp. n. Ussuri p. 165, MEIER Annu. Mus. zool. Acad. Leningrad 31 1930.

Neuchorus gen. n. (Ophioninae) p. 143, *longicauda* sp. n. Japan p. 144 fig., UCHIDA Ins. mats. 5.

Nipporicnus gen. n. for *Acroricnus tarsalis* Mats. p. 147, UCHIDA t.c.

Orientocryptus gen. n. (Mesostenini) p. 174, *formosanus* (type) p. 175, *flavo-fasciatus* p. 176, spp. n. *Formosa* figs., UCHIDA J. Fac. Agric. Hokkaido Imp. Univ. 30.

Photocryptus characters distinguishing from *Acroricnus*; *pachymenae* from *Cryptanura* p. 3; *ater* sp. n. Barro Colorado I. p. 4, CUSHMAN Proc. U.S. Nat. Mus. 79 no. 2880.

Phygadeuon formosus sp. n. Germany p. 151, PFANKUCH Ent. Jahrb. 1921.

Pimpla nilotica Egypt p. 412, *tunetana* Tunis p. 428, *euphrantae* Germany p. 452 spp. n.; *zonatella* n. n. for *zonata* Haberm. nec Cress.; *calobata* Grav. (= *cingulatella* Costa) var. n. *punicea* Tunis p. 442, SCHMIEDEKNECHT Z. angew. Ent. 1 1914.—*P. detrita* morphology, biology pp. 519–526 figs., SALT Bull. Ent. Res. 22.—*P. instigator* morphology, biology pp. 207–217 figs., MARTELLI Boll. Lab. Zool. Portici 25.

Platylabus larvator ♀ p. 188 figs., OZOLS Folia zool. hydrobiol. 3.

Polycyrtus Spin. (= *Cryptopterigimorpha* Vier.) p. 7, keys pp. 2, 53, *elegans* Vier. from *Cryptanuridimorpha* p. 7; *capitator* F. from *Mesostenus* p. 8; *tubulifera* Vier. from *Cryptopterigimorpha* p. 10; *semialbus* Cress. from

Mesostenus p. 40; *buscki* p. 11, *ornatifrons* p. 12, *inornatus* p. 13, *areolatus* p. 15, *nigriclypeatus* p. 16, *isthmus* p. 18, *brevigenalis* p. 21, *areolaris* p. 30, *duplicatus* p. 38, *triangularis* p. 39, *infractus* p. 45, *bicarinatus* p. 48 Panama, *minutus* p. 14, *paranensis* p. 20, *sulcatilobus* p. 22, *constricticlavus* p. 24, *medialbus* p. 26, *atrinasutus* p. 28, *colliculatus* p. 35 Brazil, *boliviensis* p. 14, *impressus* p. 16, *prominens* p. 17, *proximannulatus* p. 23, *manni* p. 32 Bolivia, *inca* p. 10, *convergens* p. 18, *parviclavus* p. 19 Peru, *saladonis* p. 23, *inguinatus* p. 29 Argentina, *mediotinctus* p. 30, *carinispinis* p. 47 Honduras, *albiniclavus* p. 9, *circumfluens* p. 32 Fr. Guiana, *confusus* p. 33, *bulbosus* p. 46, *humerosus* p. 51 Mexico spp. n. figs., CUSHMAN Proc. U.S. Nat. Mus. 78 no. 2857.

Polysphincta tuberosa var. n. *sculpturata* Kamtchatka p. 6, ROMAN Ark. Zool. 23A no. 6.

Porizonopteron gen. n. (Anomalonini) p. 7, *schestakovi* sp. n. Transcaspiya p. 8 fig., MEIER Konowia 10.

Promethes laticarpus var. n. *ruthei* Iceland p. 10, ROMAN Göteborgs VetenskSamh. Handl. (5B) 2 no. 4.

Protichneumon rufobalteatus subsp. n. *sinensis* China p. 399, HEINRICH Z. angew. Ent. 18.

Pseudarotes gen. n. (nr. *Arotes*) p. 174, *filipjevi* sp. n. Ussuri p. 175 fig., MEIER Annu. Mus. zool. Acad. Leningrad 31 1930.

Pseudexetastes see *Exetastes*.

Pseudomansa see *Mansa*.

Pseudoplatylabus caudatus see *Hoplismenus violentus*.

Scopesus areolaris sp. n. Germany p. 159, PFANKUCH Ent. Jahrb. 1921.

Sphinctus rufiventris sp. n. Ussuri p. 180, MEIER Annu. Mus. zool. Acad. Leningrad 31 1930.—*S. serotinus* f. n. *nigrithorax* Japan p. 145, UCHIDA Ins. mats. 5.

Spilocryptus tricolor pp. 58 and 25, *macroincubitor* pp. 58 and 26, spp. n. Korea, UCHIDA Bull. For. Expt. Sta. Govt.-Gen. Chosen 12.—*S. diatraeae* sp. n. Br. Guiana p. 267 fig., MYERS Bull. Ent. Res. 22.

Stenophorus amoenus Sss. (= *Jopites madecassa* Morl.); *vigilator* F. (= *J. metallicus* Szépl.) p. 32, HEINRICH KONOWIA 10.

Striatostenus gen. n. (Mesostenini) p. 177, *areolatus* sp. n. Formosa p. 178 fig., UCHIDA J. Fac. Agric. Hokkaido Imp. Univ. 30.

Stylocryptus lygaeonematus sp. n. Korea pp. 59 and 28, UCHIDA Bull. For. Expt. Sta. Govt.-Gen. Chosen 12.

Takastenus gen. n. (Mesostenini) p. 188, *longidentatus* sp. n. Formosa p. 189 fig., UCHIDA J. Fac. Agric. Hokkaido Imp. Univ. 30.

Thalessa lunator biology p. 3, WYSS Proc. Junior Soc. Nat. Sci. 2.

Triptognathus cursorius Smith (= *radoszkowskii* Berth., *ruficauda* Cam.) p. 31, HEINRICH KONOWIA 10.

Trochiscomerus gen. n. (Anomalonini), *schmiedeknechti* sp. n. Khiva p. 8 figs., MEIER KONOWIA 10.

Trogus arrogans see *Callajoppa pepoides*; *excellens* see *Macrojoppa*.

Tylocomnus orientalis sp. n. Ussuri p. 180, MEIER Annu. Mus. zool. Acad. Leningrad 31 1930.

Xorides albifacies sp. n. Ussuri p. 168, MEIER t.c.

Xylonomus brachylabris, *irrigator* morphology, biology pp. 22-33 figs., CHRYSTAL & SKINNER Forestry 5.

APHIDIIDAE.

Aphidius palpator sp. n. France p. 166, GAUTIER & BONNAMOUR Bull. Soc. ent. Fr. 1931.—*A. valentinus* p. 46, *affinis* p. 48, *beltrani* p. 51, *macropterus* p. 54, *merceti* p. 58, *indivisus* p. 62, *discretus* p. 65 spp. n.; *arundinis* var. n. *obscuriforme* p. 50; *granarius* var. n. *pailloti* p. 57 Spain figs., PÉREZ EOS 7.

Diaeretus naps sp. n. Spain p. 71, PÉREZ t.c.

Ephedrus vidali sp. n. Spain p. 72 figs., PÉREZ t.c.

Gynocryptinae subfam. n. p. 26, PÉREZ t.c.

Gynocryptus gen. n. p. 27, *pieltaini* sp. n. Spain p. 29 figs., PÉREZ t.c.

Lysiphlebus gomezi pp. 30-36, *janinii* pp. 37-39 further description, biology; *innovatus* p. 39, *moroderi* p. 43 spp. n.; *fabarum* var. n. *inermis* p. 46 Spain figs., PÉREZ t.c.

Pauesia gen. n. p. 67, *albuferensis* sp. n. Spain p. 69 figs., PÉREZ t.c.

Trioxys granatensis p. 74, *obscuriformis* p. 77, *complanatus* p. 78, *fumariae* p. 81, *boscai* p. 83, spp. n. Spain figs., PÉREZ t.c.

BRACONIDAE.

Revision of Ethiopian Braconidae (part) 2 Lief. 5 1931 pp. 305-384; of Palaearctic 3 Lief. 1-2 1930 pp. 1-160, Lief. 3 1931 pp. 161-240, FAHRINGER Opusc. brac.

List of 122 Braconids bred from various insects in Saxony, SCHÜTZE & ROMAN Isis Budissina 12 sep. pp. 5-12.

Apanteles Först. (= *Xestapanteles* Cam.); *paralechia* p. 2, *depressariae* p. 3, *schaeffneri* p. 4, *halisidotae* p. 5, *cingiliae* p. 6, spp. n. U.S.A., MUESEBECK Proc. U.S. Nat. Mus. 79 no. 2882.—*A. plutellae* Java, *mycetophilus* India p. 76, *salutifer* Siam p. 77, *talidicida* Br. Guiana p. 80, *aethiopicus* Uganda, Italian Somaliland p. 81 spp. n.; *xanthostigmus* Hal. notes; *anarsiae* ♀ re-described p. 79, WILKINSON Bull. Ent. Res. 22.—*A. glomeratus* pp. 218-223, *difficilis* pp. 223-229 morphology, biology, MARTELLI Boll. Lab. Zool. Portici 25.—*A. thompsoni* morphology, biology 28 pp. figs., VANCE Tech. Bull. U.S. Dept. Agric. no. 233.

Archibracon key to Ethiopian spp. p. 306, *alluaudi* Sudan p. 317, *zonatipennis* Kamerun p. 334 spp. n.; *nigritarius* n. n. for *nigricornis* Szép. p. 328; *schubotzi* ab. n. *bimaculatus* Togo p. 330; *fasciatus* ab. n. *zentneri*, *schroderi* W. Africa p. 322; *flaviceps* ab. n. *minor* Madagascar p. 324; *servillei* ab. n. *holubi* S. Africa p. 332, FAHRINGER Opusc. brac. 2 Lief. 5.

Atanycolus anocomidis sp. n. Br. Columbia p. 14, CUSHMAN Proc. U.S. Nat. Mus. 79 no. 2880.

Aulacodes see *Capitonius*.

Bathyaulax key to Ethiopian spp. p. 364, *tomentosus* Congo p. 368, *gonioides* Kamerun p. 380, *zonatus* E. Africa p. 373, *xanthurus* S. Africa

p. 375, *roscheri* p. 382, *xystus* p. 377 Centr. Africa, spp. n.; *striolatus* var. n. *szépligetii* E. Africa p. 371, FAHRINGER Opusc. brac. 2 Lief. 5.

Bathystomus funestus var. n. *schmiedeknechti* Germany p. 28, FAHRINGER op. cit. 3 1930 Lief. 1-2.

Campyloneurus bicolorinus var. n. *piceus* New Britain; *ater* var. n. *szépligetianus* Indo-Australia; *undicuneus* var. n. *strandii* Borneo p. 171; *niger* var. n. *albomaculata* Key I.; *piliarsis* var. n. *rugosus* Australia; *apicalis* ab. n. *bimaculatus* Sumatra; *enderleini* n. n. for *basalis* End. preocc. p. 172; *emailatus* (with var. n. *significacies*) p. 169, *nigrithorax* p. 171 spp. n. Sumatra, FAHRINGER Folia zool. hydrobiol. 2.

Capitonius Brullé (= *Aulacodes* Cress.) p. 9, CUSHMAN Proc. U.S. Nat. Mus. 79 no. 2880.

Cenocoelius necator sp. n. Parana p. 432 figs., BORGMELER Rev. Ent. S. Paulo 1.

Cerotopia see *Xiphozela*.

Chelonus gayi sp. n. Chile p. 374, PORTER Rev. chil. Hist. nat. 34 1930.—*C. pectinophorae* sp. n. Korea p. 11, CUSHMAN Proc. U.S. Nat. Mus. 79 no. 2880.

Coeloides dendroctoni Montana, *scolyti* Washington, spp. n. p. 303, CUSHMAN J. Wash. Acad. Sci. 21.

Dapsilotoma see *Microplitis*.

Diospilus polydrusi sp. n. New York p. 23 figs., GAHAN Tech. Bull. N.Y. Agric. Expt. Sta. 56 1916.

Doryctes key to Palaearctic spp. p. 144, *ustulatus* sp. n. Austria pp. 145 (1930), 170 (1931); *grandis* var. n. *szépligetii* Hungary p. 155; *hakonensis* var. n. *aciculatus* China p. 156; *imperator* varr. n. *rufiventris*, *reinhardi*, *bicolorinus* Transcaucasus p. 159, FAHRINGER Opusc. brac. 3 fasc. 1-2 (1930), 3 (1931).

Ecclites see *Neoneurus*.

Ecphyllus caudatus Ruschka (= *Sycosoter lavagnei* Pic. & Licht.) p. 99, FAHRINGER Opusc. brac. 3 1930 fasc. 1-2.

Euscelinus placed in *Doryctinae*, *saravacus* Westw. (= *manilae* Ashm.) p. 14, MUESEBECK Proc. U.S. Nat. Mus. 79 no. 2882.

Fornicia pilosa sp. n. Costa Rica p. 12, CUSHMAN Proc. U.S. Nat. Mus. 79 no. 2880.

Habrobracon juglandis effect of temperature on development and duration of life p. 24, PAYNE Anat. Rec. 51 supplm.; influence of temperature on coloration and its inheritance pp. 1-16 figs., KAESTNER Arch. EntwMech. Org. 124.

Helcon key to Japanese subgen. and spp. p. 23, *uchidai* p. 25, *yezonicum*, *tricolor* p. 26, *jozanum* p. 28, *aino* p. 29, *albiterebra* p. 30, spp. n. Japan figs., WATANABE Ins. mats. 6.

Helconidea necydalis sp. n. Br. Columbia p. 10, CUSHMAN Proc. U.S. Nat. Mus. 79 no. 2880.

Helorimorpha Schmied. (= *Scipolabia* End.), *enderleini* n. n. for *reticulatus* End. nec Cam. p. 13, MUESEBECK Proc. U.S. Nat. Mus. 79 no. 2882.

Heratemis further description p. 12, MUESEBECK t.c.

Heterospilus cephi morphology, biology pp. 597-609 figs., HILL & SMITH J. Agric. Res. 43.

Ipobracon rimac p. 36, *abancay* p. 38, spp. n. Peru fig., WOLCOTT Mem. Est. exptl. Agric. Soc. nac. agrar., Lima 1a 1929.—*I. puberuloides* p. 270, *pennipes*, *aquaticus* p. 272, spp. n. Br. Guiana figs., MYERS Bull. Ent. Res. 22.

Lasiophorus key to Ethiopian spp. p. 337, *giganteus* Congo p. 346, *emini* p. 344, *gracilis* p. 347, *graueri* p. 348, *turbinatus* p. 362 Kamerun spp. n.; *liogaster* ab. n. *fasciata* E. Africa p. 352, FAHRINGER Opusc. brac. 2 Lief. 5.

Macrocentrus ancylivora, *delicatus*, distinct spp., morphological differences pp. 293-300 figs., DRIGGERS & PEPPER Ann. Ent. Soc. Amer. 24.—*M. gifuensis* morphology, biology 62 pp. figs., PARKER Tech. Bull. U.S. Dept. Agric. 230.

Mesobracon psolopterus sp. n. Sierra Leone p. 394 figs., WILKINSON Bull. Ent. Res. 22.

Meteorus nigricollis morphology, biology pp. 93-101 figs., PARKER Proc. Ent. Soc. Wash. 33.—*M. hypophloeae* sp. n. Washington p. 302, CUSHMAN J. Wash. Acad. Sci. 21.—*M. striaticeps*, *spilopterus* see *Spathiis*.

Microbracon terebella morphology, biology pp. 527-534 figs., SALT Bull. Ent. Res. 22.—*M. nigrorufum* p. 15, *isomera* p. 16, spp. n. Korea, CUSHMAN Proc. U.S. Nat. Mus. 79 no. 2880.—*M. rhyacioniae* p. 15, *cryptorhynchi* p. 16, spp. n. U.S.A., MUESEBECK Proc. U.S. Nat. Mus. 79 no. 2882.

Microdus sacchari sp. n. Br. Guiana, Trinidad p. 274 figs., MYERS Bull. Ent. Res. 22.

Microgaster marginatus biology pp. 220-224 figs., ZORIN Rev. russe Ent. 24 1930.

Microplitis Först. (= *Dapsilotoma* Cam.) p. 25, WILKINSON Bull. Ent. Res. 21 1930.—*M. philippinensis* see *Snellenius*.

Nebartha see *Rhogas*.

Neoneurus Hal. (= *Ecclites* Forst.) p. 10, MUESEBECK Proc. U.S. Nat. Mus. 79 no. 2882.

Odontobracon sjöstedti sp. n. China p. 58; *bicolor* ♀ p. 57, FAHRINGER Opusc. brac. 3 1930 Lief. 1-2.

Opius Wesm. (= *Psytalia* Wlk.) *fuscipennis* Szép., *fulvus* Brues from *Rhinoplus*; *gahani* n. n. for *fuscipennis* Gah. nec Szép. p. 11; *walkeri* n. n. for *testacea* Wlk. nec Wesm. p. 12, MUESEBECK Proc. U.S. Nat. Mus. 79 no. 2882.

Paroligoneurus gen. n. p. 7, *johnsoni* sp. n. U.S.A. p. 8 fig., MUESEBECK t.c.

Perilitus morimi sp. n. Italy p. 5, FERRIERE Boll. Lab. Ent. Bologna 4; larva p. 1 figs., GRANDI Boll. Lab. Ent. Bologna 4.

Psytalia see *Opius*.

Rhaconotus mahensis sp. n. Seychelles p. 75, WILKINSON Bull. Ent. Res. 22.

Rhacospathius see *Spathius*.

Rhinoplus fuscipennis, *fulvus* see *Opius*.

Rhogas Nees (= *Nebartha* Wlk.) p. 13, MUESEBECK Proc. U.S. Nat. Mus. 79 no. 2882.

Rhopalotoma see *Yelicones*.

Rhyssalus indagator var. n. *testacea* Europe p. 36, FAHRINGER Opusc. brac. 3 1930 fasc. 1-2.

Scipolabia see *Helorimorpha*.

Snellenius placed in *Microgasterinae*, further description p. 9, *philippinensis* Ashm. from *Microplitis* p. 10, MUESEBECK Proc. U.S. Nat. Mus. 79 no. 2882.

Spathius key to Palaearctic spp. p. 62, *strandi* Riga p. 82; *exarator* var. n. *wickmanni* Istria p. 75; *pedestris* var. n. *maderi* Albania p. 77; *rubidus* ab. n. *bimaculatus* Europe p. 81, FAHRINGER Opusc. brac. 3 1930 Lief. 1-2.—*S.* (= *Rhacospathius* Cam.) p. 525, revision of Indo-Australian and Ethiopian spp. pp. 505-530, key p. 506, *cursor* p. 508, *apotanus* p. 509, *dissors* p. 511, *rusticulus* p. 517 S. Africa, *alipes* Java p. 512, *vulnificus* India p. 516, *moderabilis* Madeira p. 518, *scotti* Seychelles p. 523 spp. n.; *bruesi* n. n. for *striaticeps* Brues nec Cam. p. 514; *pedestris* Wesm. (= *apterus* Woll.); *bisignatus* Wlk. (= *dinoderi* Gah.) p. 510; *femoralis* Westw. p. 515, *apicalis* Westw. p. 519, *ruficeps* Smith p. 521 further descriptions; *striaticeps* Cam. p. 514, *spilopteris* Cam. p. 523 from *Meteorus*; *tricoloratus* n. n. for *tricolor* Szép. 1914 nec 1900 p. 529 figs., WILKINSON Trans. Ent. Soc. Lond. 79.—*S. cavillator* p. 259, *elaboratus* p. 260, *festinus* p. 261, *generosus* p. 263 India, *piperis* Netherlands Indies p. 264, spp. n. figs., WILKINSON Bull. Ent. Res. 22.

Sycosoter lavagnei see *Ecphylyus caupatus*.

Vipio chinensis sp. n. China p. 13, CUSHMAN Proc. U.S. Nat. Mus. 79 no. 2880.

Xestapanteles see *Apanteles*.

Xiphozele Cam. (= *Cerotopia* End.) p. 12, *compressiventris* Cam. (= *cornemaculata* End.) p. 13, MUESEBECK Proc. U.S. Nat. Mus. 79 no. 2882.

Yelicones Cam. (= *Rhopalotoma* Cam.) p. 14, MUESEBECK t.c.

STEPHANIDAE.

Hemistephanus carinatus sp. n. Peru p. 97, ELLIOTT Entomologist 64.

Stephanus testaceipes sp. n. Peru p. 97, ELLIOTT t.c.—*S. athesinus* sp. n. Venezia Tridentina p. 213, BIEGELEBEN Studi trentini 10 1929.

Tenthredinoidea.

List of Chalastogastra of the N. Caucasus Region, DOVNAR-ZAPOLSKIĖ Bull. N. Cauc. Plant Prot. Sta. 6-7 1930 pp. 44-62, 10 figs.

List of hitherto undetermined African Oryssioidea and Tenthredinoidea in the British Museum, FORSIUS Ann. Mag. N.H. (10) 8 pp. 2-14.

Contribution to the Tenthredinoid fauna of Poland, OBARSKI Polsk. Pismo ent. 10 pp. 40-50; Fragn. faun. Mus. zool. polon. 1 pp. 361-370.

TENTHREDINIDAE.

List of Tenthredinidae collected in Spain, FORSIUS Comment. Biol. Soc. Sci. Fenn. 3 no. 15 pp. 1-6.

Tenthredinidae of German-Russian Alai-Pamirs Expedition 1928, MALLACH Mitt. zool. Mus. Berl. 16 pp. 858-859.

Some Tenthredinidae from Persia, MALLACH Ent. NachrBl. 5 pp. 81-82.

Growth in larvae of Tenthredinidae, MILES J. Exp. Biol. 8 pp. 355-364.

Larval morphology of some birch leaf-mining Tenthredinids in Austria, RIPPER Z. PflKrankh. 41 pp. 183-191, 10 figs.

Revision of Dolerinae of America north of Mexico, ROSS Illinois Biol. Monog. 12 pp. 211-320, 6 pls.

Notes on Tenthredininae, ROSS Ann. Ent. Soc. Amer. 24 pp. 108-128.

Revisional list of Japanese Pamphiliidae, TAKEUCHI Trans. Kansai Ent. Soc. 1 1930 pp. 3-16.

On Dyar's rule and its application to sawfly larvae, TAYLOR Ann. Ent. Soc. Amer. 24 pp. 451-466.

Notes on sawflies, UFFELN Abh. Westf. Prov. Mus. Naturk. 2 pp. 179-186.

Allantus hokkaidonis sp. n. Japan p. 201, MALAISE Zool. Anz. 94.

Anaepptomena japonica sp. n. Japan p. 210, MALAISE t.c.

Arge xanthomela Klug (= *congonensis* var. *katangana* Fors.), *speciosa* Klug (= *urania* Kby.); *incerta* Transvaal p. 16, *mirabilis* Nyasaland p. 17 spp. n., FORSIUS Ann. Mag. N.H. (10) 8.

Athalia spp. biology, Japan pp. 190-192, NARUTOMI Oyo-Dobuts. Zasshi 3; habits and occurrence in Britain pp. 109, 134-137, key p. 111, *cornubiae* sp. n. England; *Dentathalia* subgen. n. for *scutellariae* Cam. etc. p. 110 figs., BENSON Ent. Mon. Mag. 67.—*A. turneri* S.W. Africa p. 21, *zanzibarica* Zanzibar p. 22 spp. n.; *schoutedeni* Fors. a form of *dissona* Konow p. 23, FORSIUS Ann. Mag. N.H. (10) 8.

Blasticotoma filiceti var. n. *pacificus* Japan p. 212, MALAISE Zool. Anz. 94.

Blennocampa bensoni p. 27, *obscuripes* p. 28 S. Africa, *sudanica* Sudan p. 30, spp. n., FORSIUS Ann. Mag. N.H. (10) 8.

Calameuta key to Palaearctic spp. p. 42, *rugosa* Centr. Asia, *atrata* Persia, *turanica* Syr Daria, spp. n. p. 43, DOVNAR-ZAPOLSKIĖ Annu. Mus. zool. Acad. Leningrad 32.

Cephaleia isschikii p. 6, *variegata* p. 7, spp. n. Japan, TAKEUCHI Trans. Kansai Ent. Soc. 1 1930.

Cephus pygmaeus parasites England pp. 479-545 figs., SALT Bull. Ent. Res. 22.—*C. fumipennis* Ev. (= *infuscatus* André); *brachycercus* Thoms. (= *punctulatus* Knw.); *pilosulus* Thoms. (= *exilis* Knw.); *sareptanus* sp. n. Sarepta p. 45; *pravei* ♂ p. 46, DOVNAR-ZAPOLSKIĖ Annu. Mus. zool. Acad. Leningrad 32.—*C. pulcher*, *rjabovi* see *Pseudocephus*.

Characopygus key, *modestus* Ural p. 44, *scythicus* Crimea p. 45, spp. n., DOVNAR-ZAPOLSKIĖ t.c.

Conaspidia umbrosa p. 52, *cylindrica* p. 53, spp. n. Japan figs., MATSUMURA Thous. Ins. Japan Suppl. 4 1912 [in Japanese]; English descriptions pp. 18, 19 figs., MATSUMURA Ill. Thous. Ins. Jap. 2 (Hym.) 1930.—*C.* key p. 206, *trifasciata* sp. n. Japan p. 204, MALAISE Zool. Anz. 94.

Dentathalia subgen. n. see *Athalia*.

Diprion European spp. pp. 1-20, *fennicum* var. n. *pseudopallidum* p. 7; *polytomum* var. n. *atramentarium* p. 8; *virens* varr. n. *nigroscutellatum*, *nigristernis*, *klugi*; *pini* varr. n. *claristernis*, *atroscutellatum* p. 9; *abieticola* varr. n. *fenestratum*, *flavomarginatum*, *lugens* p. 12; *laricis* varr. n. *lutescens*, *luteolum* p. 13, ENSLIN Naturw. Z. Forst- u. Landwirt. 14 1916.—*D. marshalli* sp. n.

China p. 26, FORSIUS Notul. ent. 11.—*D. koreana* sp. n. Korea pp. 33 and 12, biology pp. 53 and 18 figs., TAGAKI Bull. For. Expt. Sta. Govt.-Gen. Chosen 12.

Distega abdominalis sp. n. Uganda p. 26, FORSIUS Ann. Mag. N.H. (10) 8.—*D. pallidiventris* see *Xenapates*.

Dolerus key to Nearctic spp. p. 231, *illini* p. 243 (with var. n. *rufilobus* p. 245), *clypealis* p. 254 (with var. n. *nigrilabris* Canada), *nortoni* p. 255 (with var. n. *nigritella* p. 257), *moramus* p. 266, *idahoensis*, *interjectus* p. 267, *eurybis* p. 269, *frisoni* p. 295 spp. n.; *sericeus* subsp. n. *centralis* p. 250; *coloratus* var. n. *erebus* p. 259; *bicolor* var. n. *nigrita* p. 263; *agcistus* var. n. *maroa* p. 265; *elderi* var. n. *auraneus* p. 273, *rubicanus* (also Canada), *melanus* (Canada) p. 274; *similis* subsp. n. *conjectus* (Canada), *nordanus* (Canada) p. 284, *fumatus* p. 285 U.S.A. figs., with much synonymy, Ross Illinois Biol. Monog. 12.

Dulophanes antennatus ♂; *morio* ♀; *bensoni* p. 32, *natalensis* p. 33, *obscurus* p. 35, spp. n. Natal, FORSIUS Ann. Mag. N.H. (10) 8.

Fenusa pumila life-history pp. 171–177, FRIEND J. Econ. Ent. 24.

Hartigia key to Palaearctic spp. p. 40, *semenovi* Russia, *jakovlevi* Irkutsk, *affinis* Ukraine spp. n. p. 41, DOVNAR-ZAPOLSKIĖ Annu. Mus. zool. Acad. Leningrad 32.

Holco[c]neme flavipes sp. n. Japan p. 218 fig., MATSUMURA Thous. Ins. Japan Suppl. 4 1912 [in Japanese]; English description p. 77 fig., MATSUMURA Ill. Thous. Ins. Jap. 2 (Hym.) 1930.

Laurentia rubens Cress. (= *Tenthredo atravenus* MacG., *T. racilia* MacG.) p. 108; *r. ruficornis* MacG. (= *T. refractaria* MacG.) p. 109, Ross Ann. Ent. Soc. Amer. 24.

Lophyrus hakonensis sp. n. p. 215; *pini* subsp. n. *nigripictus* p. 216 Japan figs., MATSUMURA Thous. Ins. Japan Suppl. 4 1912; English descriptions pp. 75, 76 figs., MATSUMURA Ill. Thous. Ins. Jap. 2 (Hym.) 1930.—*L. fuscipennis* ♂ p. 8, VOGEL Mitt. deuts. ent. Ges. 2.

Macrophya fumator Nort. (= *Synairema pacifica* Prov., *Perineura kincaidia* MacG., *M. jugosa* Cress., *bicolorata* Cress., *obrussa* MacG.) p. 119; *oregona*

Cress. (= *obaerata* MacG.) p. 121; *o. var. n. dukiae* Canada p. 122; *fascialis* var. n. *puella* p. 123; *varius* varr. n. *festana* p. 124, *nordicola* p. 125 N. America; *v. eurythmia* Nort. (= *nidonea* MacG.) p. 124; *trissyllabus* var. n. *sinannula* Canada p. 127, key to Nearctic spp. p. 128, Ross Ann. Ent. Soc. Amer. 24.—*M. (Pseudomacrophya) punctum-album* biology pp. 27–32 figs., POMERANTZEV Bull. N. Cauc. Plant Prot. Sta. 6–7 1930.—*M. emdeni* sp. n. China p. 27, FORSIUS Notul. ent. 11.—*M. obnata* see *Pachyprotasis omega*.

Megaxyela mikado sp. n. Korea p. 5, SATO J. Chosen Nat. Hist. Soc. 11 1930.

Neacidiophora bequaerti var. n. *sternalis* Abyssinia, S. and E. Africa; *athaloides* ♂ (with var. n. *obscura* Kenya) p. 25, FORSIUS Ann. Mag. N.H. (10) 8.

Neodiprion key to spp. of subgen. *Zadiprion*; *rohweri* California p. 166; *swainei* Quebec p. 171, *burkei* Montana p. 174 spp. n.; *vallicola* ♂ p. 170, MIDDLETON Proc. Ent. Soc. Wash. 33.—*N. japonica* larval morphology pp. 151–191 figs., KITAO J. Coll. Agric. Univ. Tokyo 11.

Neotomostethus japonicus sp. n. Japan p. 210, MALAISE Zool. Anz. 94.

Neurotoma atrata sp. n. Japan p. 8, TAKEUCHI Trans. Kansai Ent. Soc. 1 1930.

Oryssus japonicus sp. n. Japan p. 160, TOZAWA Kontyû 4 1930 [not seen].

Pachycephus key p. 37, *nigratus* sp. n. Caucasus; *caspicus* n. n. for *cruentatus* auct. nec Eversm. p. 38, DOVNAR-ZAPOLSKIĖ Annu. Mus. zool. Acad. Leningrad 32.

Pachynematus laricivorus pp. 28 and 8, *nigricornis* pp. 33 and 11, spp. n. Korea, biology pp. 36 and 14 figs., TAGAKI Bull. For. Expt. Sta. Govt.-Gen. Chosen 12.

Pachyprotasis omega Nort. (= *Macrophya obnata* MacG.) p. 110, Ross Ann. Ent. Soc. Amer. 24.—*P. albicoxis* sp. n. Japan p. 202, MALAISE Zool. Anz. 94.

Pamphilus komonensis, *minomalis* p. 12, *viriditibialis* p. 13, *kamikochensis* p. 14, *nakagawai* p. 15, *jucundus* p. 16, spp. n. Japan, TAKEUCHI Trans. Kansai Ent. Soc. 1 1930.

Paradirus gen. n., *algericus* sp. n. Algiers p. 39, DOVNAR-ZAPOLSKIĖ Annu. Mus. zool. Acad. Leningrad 32.

Perineura japonica sp. n. Japan p. 203, MALAISE Zool. Anz. 94.—*P. kincaidia* see *Macrophya fumator*.

Pristiphora alnivora biology pp. 1-8 figs., PAPE Z. PflKrankh. 41.

Pseudocephus gen. n. for *Cephus pulcher* Tischb. (type), *C. rjabovi* Doyn., key p. 47, *daghestanicus*, *excisus* p. 48, *parvus* p. 49 spp. n. Daghestan, DOVNAR-ZAPOLSKIĖ Annu. Mus. zool. Acad. Leningrad 32.

Rhadinoceraea opacicollis sp. n. Japan p. 209, MALAISE Zool. Anz. 94.

Runaria gen. n. p. 212, *reducta* sp. n. Japan p. 213, MALAISE t.c.

Scolioneura nana mining habits pp. 109-111 fig., HERING Mitt. deuts. ent. Ges. 2.

Stromboceros japonicus sp. n. Japan p. 207, MALAISE Zool. Anz. 94.

Strongylogaster vaginator sp. n. Japan p. 208 fig., MALAISE t.c.

Synairema pacifica see *Macrophya fumator*.

Tenthredella glacialis U.S.A. p. 110, *fraternalis* p. 113, *stricklandi* p. 117 spp. n.; *tricolor* var. n. *savanna* p. 116 Canada; *fisheri* p. 112, *rhammisia* p. 118 ♂♂; *rufopedibus* Nort. (= *Tenthredo rubricosa* MacG.) ♀ p. 114;

tricolor Nort. (= *T. cressonii* Kby.) ♂ p. 115; *t. concessus* Nort. (= *T. uniformis* Kby.) p. 116; *perplexus* MacG. (= *T. commata* Kon.) p. 119, Ross Ann. Ent. Soc. Amer. 24.

Tenthredo reinigi sp. n. Alai p. 858, MALLACH Mitt. zool. Mus. Berl. 16.—*T. atravenus*, *racilia* see *Laurentia rubens*; *refractaria* see *L. rubens ruficornia*; *rubricosa* see *Tenthredella rufopedibus*; *cressonii* see *T. tricolor*; *uniformis* see *T. tricolor concessus*; *commata* see *T. perplexus*.

Tenthredopsis scutellaris p. 81, *tesselata* p. 92, *gynandromorpha* p. 94 morphological notes; *scutellaris* ab. n. *rufescens* Central Europe p. 92, STEIN Wien. ent. Ztg. 48.

Tomostethus nigrinus biology pp. 27-32 figs., POMERANTZEV Bull. N. Cauc. Plant Prot. Sta. 67 1930.

Triarge gen. n., *plumbea* sp. n. Cape Colony p. 19 fig., FORSIUS Ann. Mag. N.H. (10) 8.

Xenapates pallidiventris Fors. from *Distega* p. 24, FORSIUS t.c.

SIRICIDAE.

Sirex spp. descriptions and biology p. 14, CATHERINE Bull. Soc. linn. Seine-Marit., Le Havre 13 1927.—*S. yasushii* sp. n. Japan p. 117 [in Japanese], YANO Coll. Essays Nawa, Tokyo 1917.—*S. cyaneus* genetics pp. 97-103 figs., PEACOCK & GRESSON Proc. Roy. Soc. Edinburgh 51.

LEPIDOPTERA.

List of Lepidoptera of Gironde, d'ALDIN et al. Act. Soc. linn. Bordeaux 70 1927 pp. 5-70.

Corrections, etc., to a catalogue of Macrolepidoptera of Dept. Oise published in Lepidoptera (1), III, fasc. 4 Paris 1929, d'ALDIN Lambillionea 31 pp. 82-83.

Ecology and annotated list of Macrolepidoptera of N. Bessarabia, ALEXINSCHI Mem. Sect. Stiin. Acad. Română (3) 7 pp. 119-183.

Notes on S. American Lepidoptera, d'ALMEIDA Lambillionea 31 pp. 83-88.

Biology of various European Lepidoptera, AUE Ent. Anz. 11 pp. 15-18, 29 etc.

Macrolepidoptera of southern Bohemia, BATÁ Z. öst. EntVer. 16 pp. 6-7, 14 etc.

Some Lepidoptera from Oland, Sweden [in Swedish], BENANDER Ent. Tidskr. 51 1930 pp. 267-269.

Notes on the Lepidoptera of Podolia, BILOSOR Trav. Mus. zool. Kiev no. 10 pp. 127-200.

Annotated list of Lepidoptera of Northumberland and Eastern Borders, BOLAM Hist. Berwicksh. Nat. Cl. 26 1928-1929 pp. 135-227, 323-358; 27 1929-1931 pp. 115-142, 221-265.

Notes on the Lepidoptera of Greater Rumania, CARADJA Mem. Sect. Stiint. Acad. Romana (3) 7 no. 8 52 pp. 2 figs.

Life-histories of Pacific Coast Lepidoptera, COMSTOCK Bull. S. Calif. Acad. Sci. 29 pp. 135-142, 5 pls.

Studies in Pacific Coast Lepidoptera, COMSTOCK Bull. S. Calif. Acad. Sci. 30 pp. 15-20, 10 figs.

Notes on some moths collected in Spain, COOKE Entomologist 64 pp. 7-13.

Lepidopterous forms new to the Belgian fauna, DERENNE et al. Lambillionea 31 pp. 3, 98, 116-117.

Lepidopterous fauna of Retezat, Carpathians, DIÓSZEGHY Pub. Muz. jud. Hunedoara 27 1930 no. 2 pp. 5-27.

Does the vicinity of the sea influence the vertical distribution of mountain Lepidoptera in Bulgaria? DRENOWSKI Deuts. ent. Z. 1930 pp. 179-192, 1 map. Also in Bulgarian in Mitt. bulgar. ent. Ges. 6 pp. 142-152.

Second contribution to the Lepidopterous fauna of Ali-Botusch Mts., Macedonia, DRENOWSKI Mitt. bulgar. ent. Ges. Sofia 6 pp. 49-67.

Lepidoptera of Gotland, Sweden, Ekström Ent. Tidskr. 51 1930 pp. 58-72.

Notes and additions to the list of Lepidoptera of Digne (Basses-Alpes), FASSNIGGE Ent. Rec. 43 pp. 117-122, 145-149.

Notes on some Algerian butterflies with special reference to Kabylia, FISON Ent. Rec. 43 pp. 166-167.

List of Lepidoptera collected in Haiti, FULDA Ent. Rdsch. 48 pp. 169-170, 176, etc.

On the seasonal forms of Lepidoptera in the Genoa Museum, HARTIG Studi trentini (2) 8 1927 pp. 85-100.

Additions to the Lepidopterous fauna of Venezia Tridentina, HARTIG Studi trentini 9 1928 pp. 65-88, 8 figs.; 11 1930 pp. 231-251, 1 pl.; 12 pp. 3-36.

Rules for describing the biology of Lepidoptera, HAYWARD Rev. Soc. ent. argent. 3 pp. 257-264, 2 pls.

Contribution to the early stages of Argentine Lepidoptera, HAYWARD Ent. Rec. 43 sep. pp. 1-8.

Some notes on Lepidoptera in Derbyshire in 1926-1930, HAYWARD J. Derbyshire Arch. & N.H. Soc. no. 49 1927 pp. 264-271; no. 50 1930 pp. 106-108; 51 pp. 141-145.

On the generic names used by Freyer in the Neuere Beiträge, HIGGINS Ent. Rec. 43 pp. 14-15.

Notes on the life-histories of some Brazilian Lepidoptera, II, III, HOFFMANN Z. wiss. InsektBiol. 26 pp. 1-8, 109-124.

Notes on Irish Lepidoptera, 1923-29, JOHNSON Entomologist 64 pp. 53-59.

Macrolepidoptera of the Minussinsk district, KOZHANTSCHIKOV Jahrb. Martj. Staatsmus. Minussinsk 5 1927 pp. 51-52; 6 (1928) 1929 pp. 64-82.

Vertical distribution of Lepidoptera in the Sikhota Alin Mts., KURENTZOV *Izv. State Geogr. Soc.* **2** (xix) 1929 pp. 41-50.

Additions to list of Lepidoptera collected in Upper Styria, KUSDAS *Ent. Z.* **45** pp. 142-146, 160 etc.

On the priority of some Lepidopterous aberrations [contd.], LEMPKE *Lambillionea* **31** pp. 15-20, 26-28.

Notes on Swedish Lepidoptera, LINDSTRÖM *Ent. Tidskr.* **51** 1930 pp. 7-29.

Annotated list of Macrolepidoptera of N. Pomerania, LOMMATZSCH *Int. ent. Z.* **24** pp. 395-399, 420 etc.; **25** pp. 60-61.

Addenda to paper on Lepidoptera of Sicily, MARIANI *Boll. Soc. ent. ital.* **63** p. 23.

Distribution of Macrolepidoptera in the Ussuri and Amur districts, MOLTRECHT *Izv. State Geogr. Soc.* **3** (xx) no. 2 1929 pp. 1-70, 1 map.

Biology of various Dalmatian Lepidoptera, NADBYL *Ent. Z.* **45** pp. 27-29, 45 etc.

Additions to the catalogue of Argentine Lepidoptera, ORFILA *Rev. Soc. ent. argent.* **3** pp. 237-238.

Criticism of Seitz supplement "Die Schmetterlinge Südbayerns und der angrenzenden nördlichen Kalkalpen" by Osthelder, OSTHELDER *Mitt. münchn. ent. Ges.* **21** pp. 87-88.

Effects of distribution and food on the formation of species in Lepidoptera, PETERSEN *Z. Morph. Oekol. Tiere* **20** pp. 679-690.

List of 184 Lepidoptera collected in Peru, PRÜFFER *Arch. Biol. Soc. Sci. Varsovie* **1** no. 3 1922 pp. 1-14.

Macrolepidoptera of Upper Silesia, RAEBEL *Beuthener Abh. oberschles. Heimatforsch.* no. 1-3 101 pp. 4 pls.

Popular names of Lepidoptera of Federal District of Brazil, RAYMUNDO *O Campo* **2** nos. 1-2 pp. 52-53; no. 2 pp. 26-27, 13 figs.

List of Lepidoptera from S. Arabia and Sokotra I., REBEL *Denkschr. Akad. Wiss. Wien* **71** no. 2 (1907) 1931 pp. 31-130, 1 pl. 41 figs.

Lepidoptera of Matto Grosso, RIBEIRO *Bol. Mus. nac. Rio de Janeiro* **7** pp. 31-52.

Short biological notes on various Lepidoptera, ROMETSCH et al. *Ent. Anz., Vienna* **11** pp. 325-328, 346-349, 365-368, 405-408, 449-452, 465-468, figs.

List of Lepidoptera of Wildseemoor, Black Forest, SCHNEIDER *Veröffent. Staat. Stelle Naturschutz* **4** 1928 pp. 157-163, 1 pl.

Critical notes on variations in Brazilian Lepidoptera, SEITZ *Ent. Rdsch.* **48** pp. 1-6, 36 etc.

List of Lepidoptera of Moravia, Silesia and Slovakia, SKALA *Ent. Anz.* **11** pp. 469-471.

List of newly discovered Macrolepidoptera from former Austria-Hungary, SKALA *Ent. Z.* **45** pp. 97-100, 114-119.

Lepidopterous fauna of central Bohmerwald, SOFFNER *Mitt. münchn. ent. Ges.* **20** pp. 115-132, 1 pl.

Annotated list of Lepidoptera from Finland, SUOMALAINEN *Ann. Soc. zool.-bot. fenn. Vanamo* **8** 1929 pp. 78-104, 3 figs.

The naming of individual variants in Lepidoptera, TALBOT *Ent. News* **42** pp. 80-82.

Some rare and interesting Lepidopterous aberrations, TOLL *Polsk. Pismo ent.* **10** pp. 119-124, 1 pl.

Second contribution to the Lepidopterous fauna of Ali-Botusch Mts., Macedonia, TULESCHKOW *Mitt. bulgar. ent. Ges. Sofia* **6** pp. 189-202.

Lepidoptera of Canton Tessin and Misox Valley, Switzerland, VORBRODT *Mitt. schweiz. ent. Ges.* **14** pp. 265-328 (1930) pp. 329-393 (1931) 2 pls.

Notes on Lepidoptera in Lapland in 1928, VRETTLIND & NORDSTRÖM *Ent. Tidskr.* **51** 1930 pp. 80-82.

List of Lepidoptera collected in Central Anatolia, WAGNER *Int. ent. Z.* **24** pp. 467-485, 487-493, 1 pl.

Macrolepidoptera of N. Frisian Is., WARNECKE *Ent. Anz.* **11** pp. 271-274, 307, etc.

Rhopalocera.

Critical notes on various Brazilian butterflies, D'ALMEIDA Ent. Z. 45 pp. 232-235, 3 figs.

List of Rhopalocera from Mt. Shouyou, Korea, DOI J. Chosen Nat. Hist. Soc. 12 pp. 42-47, 2 figs.

Butterflies of Yamhill County, Oregon, FENDER Pan-Pacific Ent. 7 pp. 179-187, 1 map.

Notes on some Swiss butterflies, FISON Ent. Rec. 43 pp. 133-136.

Revised list of butterflies of Siam, GODFREY J. Siam Soc. Nat. Hist. Suppl. 7 1930 pp. 203-397, 1 map.

Annotated list of butterflies collected on Kaw Tao I., Gulf of Siam, GODFREY J. Nat. Hist. Soc. Siam 8 pp. 191-196.

Notes on butterflies in June in the Balkans, HAIG-THOMAS Ent. Rec. 43 pp. 57-62.

Some unusual occurrences of butterflies in Connecticut, HASKIN Ent. News 42 pp. 201-202.

New material regarding the dates of the plates of the Papiliones in Hübner's "Sammlung europäischer Schmetterlinge," with notes on synonymy and type localities of certain spp. described therein, HEMMING Trans. Ent. Soc. Lond. 79 pp. 493-505.

The butterfly book, HOLLAND New York, Doubleday, Doran & Co. revd. edn. 1931 xii + 424 pp. 77 pls. 198 figs.

Zoogeographical correlation of butterfly distribution in Botel Tobago I. and adjacent regions, KANO Bull. Biogeogr. Soc. Japan 2 pp. 221-236, 2 figs.

Additions and corrections to the author's "Butterflies of Jamaica (1926)," KAYE Trans. Ent. Soc. Lond. 79 pp. 531-537, 1 pl.

Annotated list of butterflies of Huntingdon Lake, Fresno Co., California, MARTIN & INGHAM Bull. S. Calif. Acad. Sci. 29 pp. 115-134, 1 map.

Notes on some butterflies of north-eastern Georgia, MONTGOMERY Ent. News 42 pp. 109-111.

Butterflies of Indiana, MONTGOMERY Proc. Indiana Acad. Sci. 40 pp. 351-355.

Records of early stages of various Japanese butterflies, NAGANO & ESAKI Zephyrus 3 pp. 16-27, 1 pl.

A list of butterflies from Taihoku, III, NOMURA Trans. N.H. Soc. Formosa 21 pp. 291-299.

Rhopalocera from Mangalum I., N.W. Borneo, PENDLEBURY Bull. Raffles Mus. 5 pp. 94-97, 1 pl.

Habits of S. American equatorial butterflies, POLLARD J. N.Y. Ent. Soc. 39 pp. 167-170.

Butterflies of the Simla Hills, DE RHE-PHILIP J. Bombay N.H. Soc. 35 pp. 173-183, 415-420.

List of butterflies of Tanganyika, SAYERS Handb. Tanganyika Terr. 1930 pp. 460-464.

Butterflies of Kenya and Uganda, pt. IX, VAN SOMEREN & ROGERS J.E. Afr. Ug. N.H. Soc. nos. 38-39 pp. 18-33, 9 pls.

Rhopalocera of Portugal (contd.), WATTISON Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 29 1930 pp. 39-100, 68 figs.

Butterflies of Coorg, YATES J. Bombay N.H. Soc. 34 pp. 1003-1014; 35 pp. 104-114.

DANAIDAE.

Catalogue of Danaidinae and Telleriinae, HULSTAERT Gen. Ins. fasc. 193 215 pp. 6 pls.

Ceratinia ninonia subsp. n. *neimyi* Brazil p. 35, RILEY Entomologist 64.

Dismenitis zavaleta f. n. *ingens* Peru p. 5 fig., PRÜFFER Arch. Biol. Soc. Sci. Varsovie 1 no. 2 1922.

Euploea eleutho subsp. n. *nieuwenhuisi* New Guinea p. 130, HULSTAERT Gen. Ins. 193.

Lycorea cleobea f. n. *bicolor* Peru p. 4, PRÜFFER Arch. Biol. Soc. Sci. Varsovie 1 no. 2 1922.

Mechanitis lycidice f. n. *argentea* Peru p. 5 fig., PRÜFFER t.c.

Thyridia secondary sexual characters; *mystica* sp. n. Amazonas p. 102, ZIKÁN Ent. Rdsch. 48.

SATYRIDAE.

Supplement to Palaearctic Satyridae, BOLLOW & GAEDE in SEITZ Suppl. 1 pp. 335-341.

Catalogue of Satyridae of the World, GAEDE Lep. Cat. 43 pp. 1-320; 46 pp. 321-544; 47 pp. 545-759.

Complete albinism in Bohemian Satyrids, HOLIK Acta Soc. ent. Čech. 27 1930 pp. 70-74.

Agapetes larissa Boisd. (= *freyeri* Fruhst.) p. 501, subsp. *herta* Gey. (= *adriatica* Seitz) p. 502, HEMMING Trans. Ent. Soc. Lond. 79.

Cercyonis luederwaldti sp. n. Brazil p. 46 fig., SPITZ Rev. Ent. S. Paulo 1.

Coenonympha pamphilus notes on abb. and their synonymy pp. 60-68, 117-119, ab. *caeca* Ober. (= *caecaella* Strand) p. 62; ab. n. *nigromarginata* Belgium p. 68, LEMPKE Lambillionea 31.—*C. pamphilus* status of Strand's ff. pp. 265-268 figs., STRAND Acta Univ. Latviensis Mat. Dabasz. Fak. Ser. I. 10; notes on abb. pp. 92-94, STRAND Int. ent. Z., Guben 25.

Davidina status discussed p. 347, *armandi* further description, anatomy pp. 349-353 figs., KUZNETZOV Annu. Mus. zool. Acad. Leningrad 31.—*D. type armandi* Ob. (= *Leechia alticola* Röb.) not a Pierid p. 229, TALBOT Entomologist 64.

Epinephele jurtina oviposition p. 105, SIMES Proc. Ent. Soc. London 5.—*E. jurtina caeca* Ks. discussed p. 27, LEMPKE Lambillionea 31.

Erebia biological notes on Swiss spp. p. 67, EARL Trans. Proc. Torquay N.H. Soc. 6; criticism of Warren's article pp. 1-4, STERNICK Int. ent. Z. 25.—*E. epiphron transsylvanica* f. n. *latifasciata* Hungary p. 204, DRÓSZEGHY Verh. Siebenbürg. Ver. Naturw. 79-80 1930.—*E. medusa* ab. *dilucescens* Gram. (= ab. *mairloti* Cab.) p. 181, LEMPKE Lambillionea 31.—*E. tyndarus* var. n. *nevadensis* Spain p. 30, HAIG-THOMAS Ent. Rec. 41 1929.—*E. aethiops* Esp. (= *reducta* Htg., *biocellata* Htg.) p. 236 fig., HARTIG Studi trentini 11 1930.—*E. (Papilio) atrata* Esp. (= *pluto* de Prunn.) p. 25, HIGGINS Entomologist 64; discussed pp. 202-203, WARREN Entomologist 64.—*E. euryale* and r. *isarica* critical notes pp. 269-272, WARREN Int. ent. Z., Guben 25; f. n. *nana* Carpathians p. 9, DRÓSZEGHY Pub. Muz. jud. Hunedoara 27 1930 no. 2.—*E. aethiops* biology p.

147, DERENNE Lambillionea 31.—*E. triarius* Prun. (= *bonellii* Hb.) p. 501, HEMMING Trans. Ent. Soc. Lond. 79.—*E. jeniseiensis* distinct sp. p. 56, WARREN Ent. Rec. 42 1930.—*E. ligea* r. n. *herculeana* p. 49; *epiphron transsylvanica* r. n. *retyezatensis* Transsylvanica p. 51; *sedakovii* r. n. *sajanensis* Saján Mts.; *euryale isarica* Heyne (= *bohmerwaldensis* Warr.) p. 52; *medusa* r. n. *altissima* Switzerland; *jeniseiensis* subsp. n. *fasciola* Altai p. 98; *aethiops* r. n. *fogarasica* Fogaras p. 100; *jeniseiensis* ab. n. *obliterata* p. 168; *embla* subsp. n. *dissimulata* Saján Mts.; *isarica* discussed p. 169; *disa* subsp. n. *festiva* p. 170; *discoidalis* subsp. n. *yablonoica* E. Siberia; *theano approximata* ab. n. *simulans* Altai, t. *pawloskii* ab. n. *ultima* Saján Mts. p. 171; *theano canadensis* n. n. for t. *sofia* Str. nec Acerbi p. 172, WARREN op. cit. 43.—*E. stygine* f. n. *thuringiaca* Thuringia p. 140; *aethiops* f. n. *wralensis* Ural p. 146; *euryale* f. n. *pyraenaicola* Pyrenees p. 147, GOLTZ in SEITZ Suppl. 1 1930.

Euptychia herse subsp. n. *peruviana* Peru p. 6, PRÜFFER Arch. Biol. Soc. Sci. Varsovie 1 no. 2 1922.—*E. jamaryensis* sp. n.; *agaya* f. n. *azulina* Brazil p. 34, RIBEIRO Bol. Mus. nac. Rio de Janeiro 7.—*E. armilla* variation p. 42 figs., SPITZ Rev. Ent. S. Paulo 1.

Hipparchia semele subsp. *ichnusa* n. n. for *aristaeus* Bon. nec Stoll; *fatua* Frr. (= *allionii* Hb.) p. 502, HEMMING Trans. Ent. Soc. Lond. 79.

Leechia alticola see *Davidina armandi*.

Melanargia evolution of wing pattern pp. 316-408 figs., SCHWANWITSCH Z. Morph. Oekol. Tiere 21.—*M. galathea* forms discussed pp. 85-88 fig., KAUTZ Z. öst. EntVer. 16.—*M. halimede* group critical notes pp. 7-10, 25 etc. figs., SHELJUZHKO Ent. Anz. 11.

Nytha arethusa Italian ff. pp. 127-133, f. n. *ligustica* Italy p. 129, ROCCI Boll. Soc. ent. ital. 63.

Oeneis semplei Labrador p. 50, *gibsoni* Kuskokwin Valley p. 51, spp. n., HOLLAND Ann. Carnegie Mus. 20 1930.—*O. gibsoni* further description p. 200 fig., HOLLAND The Butterfly Book 1931.

Pararge maera ab. n. *nana* Białowieża Forest, Poland p. 126, GIEYSZTOR Białowieża 2 1923.—*P. megera para-maera* Hb. (= *tigelius* Bon.); *maera*

hieria F. (= *adrasta* Ill.) p. 503, HEMMING Trans. Ent. Soc. Lond. 79.—*P. egeria* in W. Inverness p. 187, MORTON Scot. Nat., Edinburgh no. 192.

Pierella stollei sp. n. Brazil p. 32, RIBEIRO Bol. Mus. nac. Rio de Janeiro 7.

Pindis obnixa sp. n. Mexico p. 104, DRAUDT Ent. Rdsch. 48.

Sabatoga nevadensis sp. n. Colombia p. 30 figs., SCHULTZE Iris 45.

Satyrus semele aristaeus ab. n. post-caeca Corsica p. 31, SCHAWERDA Z. öst. EntVer. 16.—*S. actaea* subsp. n. *similima* Morocco p. 195, ROTHSCHILD Novit. zool. 36.—*S. alcione* f. n. *caeca* Germany p. 401, HANNEMANN Int. ent. Z., Guben 24.—*S. stirius* discussed pp. 204–205, WARREN Entomologist 64.—*S. stirius* Godt. (= *nerine* Frey.) p. 26, HIGGINS Entomologist 64.—*S. azorinus* notes pp. 77–81 figs., WALKER Proc. Ent. Soc. Lond. 5.

Taygetis valentina subsp. n. *tarmensis* Peru p. 5 fig., PRÜFFER Arch. Biol. Soc. Sci. Varsovie 1 no. 2 1922.—*T. andromeda* f. n. *stollei*; *indecisa* sp. n. Brazil p. 33, RIBEIRO Bol. Mus. nac. Rio de Janeiro 7.—*T. inconspicua* sp. n. Mexico p. 103, DRAUDT Ent. Rdsch. 48.

MORPHIDAE.

Morpho menelaus gynandromorph p. 28, SCHIRBER Proc.-verb. Soc. linn. Bordeaux 82; f. n. *innocentia* Brazil p. 32, RIBEIRO Bol. Mus. nac. Rio de Janeiro 7.—*M. perseus* morphology p. 337, RÖBER Int. ent. Z. 25.—*M. helena* ab. n. *inka* Peru p. 486, NIEPELT Int. ent. Z. 24.—*M. hecuba phanodemus* abb. n. *ucayalus*, *iricor*, *rectifasciatus* p. 153; *hecuba cisseis* ab. n. *lilacinus* p. 154; *rhetenor helena* ab. n. *impunctata*; *adonis* subsp. n. *immaculata*, *huallaga* p. 164, *caladoensis*, *equatoriensis* p. 165 Amazonas figs., MICHAEL Ent. Z. 45.—*M. rhetenor* abb. n. *rosenbergi* p. 5, *paramacas*, *coerulesquamosa* Fr. Guiana, *tapajoz* Brazil, *fournierae* p. 6 (with abb. n. *pseudocacica*, *pseudorosenbergi*, *subrosenbergi*, *pseudolesoudieri*, *pseud-augustinae*, *pseudodickseei*); r. subsp. *augustinae* abb. n. *unicolor*, *talboti* p. 7; *electra* subsp. *guarauna*; *patroclus* subsp. *guaraunos* ♀♀; p. subsp. g. abb. n. *arpi*, *lucasi*, *aboti*, *subagamedes*, *reverdini* p. 8 Venezuela, LE MOULT Novit. ent. 1.

BRASSOLIDAE.

Caligo eurilochus f. n. *mattogrossensis* Brazil p. 31, RIBEIRO Bol. Mus. nac. Rio de Janeiro 7.

NYMPHALIDAE.

Supplement to Nymphalidae in suppl. Vol. I, BOLLOW & GAEDE in SEITZ Suppl. 1 pp. 341–351.

Larvae and pupae of Californian Argynnis, COMSTOCK Bull. S. Calif. Acad. Sci. 30 pp. 40–44, 8 figs.

Revision of Nymphalidae of Argentina, HAYWARD Rev. Soc. ent. argent. 4 pp. 1–200, 21 pls. 6 figs.

Notes on classification and nomenclature of some American Nymphalids, HOLLAND Ann. Carnegie Mus. 20 1930 pp. 39–51.

Acraea arabica sp. n. S. Arabia p. 359, REBEL Anz. Akad. Wiss. Wien 36 1899.—*A. encedon*, *lycia* synonymy, races pp. 239–262; *encedon* ff. n. *poultoni* Uganda, *infuscatoides* Congo, *micropunctata* Liberia p. 264, *macropunctata* Rhodesia, *umbratalcippina* Uganda, *lycoides* E. Africa p. 264; *lycia* ff. n. *fulvoides* Nigeria, *encedonoides* Portuguese Guinea p. 265, *aurantiaca* Nigeria p. 266 figs., le Doux Mitt. zool. Mus. Berl. 17.—*A. rohlfsi* ♀ p. 49; *rileyi* sp. n. p. 50; *nohara* subsp. n. *ochracea*; *manca* f. n. *taborensis* p. 51; *acrita* f. n. *albomaculosa* p. 53; *natalica* *abadima* f. n. *inexpectata* p. 54; *caldarena* *intermedia* f. n. *marginipunctata* p. 55; *zetes trimeni* f. n. *nigromacula* p. 56; *ansorgei* f. n. *bryki* p. 58 E. Africa; *zitja* f. *callida* ♂ p. 53, LE DOUX Deuts. ent. Z. 1931.—*A. chilo* subsp. n. *yemensis* S. Arabia p. 42, LE DOUX Mitt. deuts. ent. Ges. 2.—*A. ansorgei* notes on nomenclature p. 146; ff. n. *aurata*, *vansomereni* p. 147, *bantu*, *pauliniae* p. 176, E. Africa, BRYK Ent. Rdsch. 48.—*A. neobule* subsp. n. *socotrana* Sokotra I. p. 58 figs., REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.—*A. althoffi* forms pp. 62–65, f. n. *lycioides* E. Africa p. 64, CARPENTER Proc. Ent. Soc. Lond. 6.

Actinote pellenea ff. n. *calchaqui* pp. 20, 175, *diaguita* pp. 22, 177, *quasicinerea*, *venata* pp. 24, 178; *parapheles* f. n. *ochreana* pp. 28, 179 Argentina figs., HAYWARD Rev. Soc. ent. argent. 4.—*A. rhodope* ab. n. *tenuilimbata* Brazil p. 61 fig., D'ALMEIDA Ent. Z. 45.

Aglais urticae epigamic behaviour pp. 99-101, POULTON Proc. Ent. Soc. London 5.

Agrias pericles rubella abb. n. modulatata p. 309, *connexa* (with abb. n. *livida* p. 310, *grandis*); *hewitsonius stuarti* abb. n. *simplicia*, *semibicolora*, *clara* p. 511; *narcissus obidonus* ab. n. *corallina* p. 312 Amazonas, MICHAEL Ent. Z. 44.—*A. claudia croesus* abb. n. *pseudobrunhilda*, *pseudosanguinea*, *subcyanea* Brazil p. 1; *c. sara* abb. n. *pseudosardana palus*, *sublugens*, *subdelorme* Ecuador; *c. lugens* ab. n. *imecourti* Peru; *c. lugina* ab. n. *oudini*; *c. subsp. n. pujoi* (with abb. n. *orleansi*, *dufourii*) Bolivia; *amydon zenodorus* ab. n. *nigroconjuncta* Ecuador; *pericles mauensis* ab. n. *pseudotristis* Amazons p. 2; *p. subsp. n. steinbachi* (with abb. n. *cyanemixta*, *rogeri*, *jacobi*, *petri*, *elongata*) Bolivia; *p. xanthippus* abb. n. *reverdini*, *theryi* p. 3, *lucasi*, *daudeti*, *fochi*; *phalcidon phalcidon* abb. n. *guisei*, *chauveloti*, *joffrei* p. 4, *gelisi*, *didoti*, *nigrobasalis*, *semialoisi*, *conjuncta*, *viridescens*; *narcissus tapajonus* ab. n. *cyanoeradiata* p. 5 Brazil; *pericles xanthippus* ab. *bouvieri* p. 3, *phalcidon phalcidon* ab. *lemoulti* p. 4, ab. *itaituba* p. 5 ♂♂, LE MOULT Novit. ent. 1.—*A. oaxacata* sp. n. Central America p. 123, KRUCK Ent. Rdsch., Stuttgart 48.

Anartia moreno sp. n. Mexico p. 234 fig., KRUCK t.c.

Apatura nycteis f. n. *furukawai* Corea p. 43 fig., MATSUMURA Ins. mats. 6.—*A. asakurai* figured p. 14, ESAKI Zephyrus, Fukuoka 3.

Argynnis spp. methods of breeding pp. 117-127 figs., HURST Int. ent. Z. 25.—*A. adippe* f. n. *magna clarens* p. 253; *niobe* r. n. *superlata* p. 254 France, GAILLARD Bull. Soc. Sci. nat. Nîmes 46 1928-29.—*A. amathusia* ab. n. *bialowiezensis* Białowieża Forest Poland p. 125, GIEYSZTOR Białowieża 2 1923; notes pp. 320-322, KREMKY Fragn. faun. Mus. zool. polon. 1.—*A. cybele* var. n. *kravtchurni* Michigan p. 255; *irene* Boisd. (= *luski* Barnes & McD.) p. 256, HOLLAND Ann. Carnegie Mus. 20.—*A. cybele* subsp. n. *kravtchurni* Michigan p. 87 fig.; *skinneri* n. n. for *sakuntala* Skin. nec *sakontala* Koll. p. 95, HOLLAND The Butterfly Book

1931.—*A. dodgei* sp. n. Oregon p. 46, GUNDER Bull. S. Calif. Acad. Sci. 30.—*A. aphirape* biology pp. 142-145, MAIRLOT Lambillionea 21.—*A. euphrosyne minor* Ks. (= *e. euphrysonella* Cab.) p. 27, LEMPKE Lambillionea 31.—*A. pandora* var. n. *flavescens* p. 59, ab. n. *ocellata* p. 60 Belgium, DURAND Lambillionea 31; f. n. *benacensis* N. Italy p. 144, TURATI Boll. Soc. ent. ital. 63.—*A. nitocris* restored to N. American list; *nokomis* Edw. (= *apacheana* Skin.) p. 44, HEMMING Proc. Ent. Soc. Lond. 6.

Batesia hypochlora ab. n. *intermedia* Amazonas p. 166, MICHAEL Ent. Z. 45.

Brenthis selenis subsp. n. *sankoi* p. 45; *thore* subsp. n. *transuralensis* p. 46 W. Siberia, SHELJUZHKO Int. ent. Z. 25.

Bulboneura sylphis subsp. n. *veracruzana* Mexico p. 104, DRAUDT Ent. Rdsch. 48.

Callicore difascia sp. n. Colombia p. 61 fig., D'ALMEIDA Ent. Z. 45.—*C. candrena* ab. n. *splendens* Argentina pp. 120, 183 fig., HAYWARD Rev. Soc. ent. argent. 4.

Catagramma hydaspes f. n. *rosaeprivata* Argentina pp. 112, 183 fig., HAYWARD t.c.—*C. rondoni* sp. n. Brazil p. 31, RIBEIRO Bol. Mus. nac. Rio de Janeiro 7.—*C. excelsior michaeli* abb. n. *albipunctata*, *reducta*, *cobaltinus* Amazonas p. 167, MICHAEL Ent. Z. 45.

Charaxes katangae sp. n. Belgian Congo p. 87 figs., ROUSSEAU-DECALLE Bull. Soc. ent. Fr. 1931.—*C. varanes* subsp. n. *bertrami*; *hansali* subsp. n. *arabica* S. Arabia p. 279, RILEY Entomologist 64.—*C. jasius* biology p. 9, HELLE Riviera sci., Nice 18.—*C. fulvescens* f. n. *stonehami* Kenya p. 1, JEFFERY Bull. Stoneham Mus., Kitale, Kenya no. 4.—*C. alicia* sp. n. p. 2 no. 5; *castor* f. n. *aginga* p. 1 no. 6; *numenes* f. n. *obsolescens* p. 1 no. 7 Kenya, STONEHAM op. cit.

Chlorippe elis f. n. *huambiensis* Peru p. 7, PRÜFFER Arch. Biol. Soc. Sci. Varsovie 1 no. 2 1922.—*C. burmeisteri* f. n. *verdemicans* Argentina pp. 146, 184 fig., HAYWARD Rev. Soc. ent. argent. 4.

Chlosyne saundersi f. n. *splendida* (with ab. n. *reducta*) Argentina pp. 66, 181 fig., HAYWARD t.c.

Cystineura hypermnestra subsp. n. *sordida* Argentina pp. 87, 182 fig., HAYWARD t.c.

Diagora nigrivena see *Hestina assimilis*.

Dione junio ab. n. *suffumata* Argentina pp. 40, 180 figs., HAYWARD Rev. Soc. ent. argent. 4.

Dynamine coenus f. n. *effusiva* Argentina pp. 122, 184 fig., HAYWARD t.c.

Eucides thales f. n. *reducta* Brazil p. 173, NEUSTETTER Int. ent. Z. 25.

Euphydryas editha rr. n. *fridayi* California, *lawrencei* p. 47; *editha* ff. n. *diamondensis*, *thielsenensis* p. 48 Oregon, GUNDER Bull. S. Calif. Acad. Sci. 30.

Fabriciana niobe subsp. n. *chinensis* W. China p. 62, BELTER Ent. Z., Frankfurt a. M. 45.

Heliconius charithonia and its mimics in S. America pp. 89-90, KAYE Proc. Ent. Soc. Lond. 5; gregarious sleeping habits pp. 4-10, JONES Proc. Ent. Soc. Lond. 6.—*H. nanna* Stich. (= *mayi* d'Alm.) p. 62, d'ALMEIDA Ent. Z. 45.—*H. phyllis* ab. n. *cohaerens* Argentina pp. 34, 180 fig., HAYWARD Rev. Soc. ent. argent. 4.—*H. numatus* subsp. n. *jiparanaensis* p. 165 (with f. n. *mediatrix*); *silvana* f. n. *atakama* p. 166; *besckei* f. n. *intermixta* p. 170; *demeter* f. n. *similis* p. 172 Brazil; *novatus* f. n. *confluens* p. 167; *penelope* f. n. *flavodiscalis* p. 170 Bolivia; *aristiona timaeus* f. n. *aristeus* p. 168; *elevatus* f. n. *pseudocupidinus* p. 169; *aristiona aurora* f. n. *michaeli*, *aristiona staudingeri* f. n. *lutea* p. 173; *quitalea felix* f. n. *umbrina*, *aglaope* f. n. *flavotenuiata* p. 174 Peru, *melpomene* ff. n. *trimacula* p. 168, *nigrointerrupta* p. 169; *eratoformis* sp. n. p. 170; *erato* ff. n. *latiflava* p. 171, *nigrobasalis* p. 172 Fr. Guiana figs., NEUSTETTER Int. ent. Z. 25.

Hestina assimilis, *Diagora nigrivena* dry season form of pp. 187-194 figs., MELL Biol. Zbl. 51.

Hypolimnias bolina sex ratios Fiji p. 75, SIMMONDS Proc. Ent. Soc. London 5; *b. priscilla* ab. n. *taihokuna* ? Japan p. 73, NOMURA Mushi 3 1930 [not seen].

Limenitis takamukuana sp. n. Corea p. 44 fig., MATSUMURA Ins. mats. 6.—*L. populi* hybrid fig. p. 170, FORGE Ent.

Rdsch., Stuttgart 48.—*L. populi ussuriensis* ab. n. *sakaii* Honsyû p. 97 fig., SUGITANI Zephyrus, Fukuoka 3.

Megistanis hahneli sp. n. Amazonas p. 166, MICHAEL Ent. Z. 45.

Melitaea notes on ff. described by Ksenhopjski 1911 p. 26, LEMPKE Lambillionea 31.—*M. borealis* n. n. for *athalia parthenie* Auriv. nec Bork. p. 28, LINDSTRÖM Ent. Tidskr. 51 1930.—*M. arachne* ab. n. *gunderiae* California p. 128 fig., HOLLAND The Butterfly Book 1931.—*M. varia* discussed pp. 6-8, WARREN Ent. Rec. 43.—*M. aurinia* discussion on variation and fluctuation pp. 49-52, MUIR Entomologist 64; reply to Muir's criticism pp. 93-95, FORD, H. D. & E. B. Entomologist 64; *abb. n. semigriseis* p. 3, *tetramelana* p. 174, *semigracilens* p. 199 Belgium, CABEAU Lambillionea 31.—*M. gabbii* larva p. 15 fig., COMSTOCK Bull. S. Calif. Acad. Sci. 30.—*M. hevesi* sp. n. U.S.A. p. 12, LEUSSLER Ent. News 42.—*M. maturna* var. n. *aestia* Germany p. 34, BOIS-REYMOND Z. wiss. InsektBiol. 26.—*M. athalia* discussion and morphology of ff. pp. 10-35 figs., ROCCHI Mem. Soc. ent. ital. 10.—*M. cynthia drenowskii* Rôb. (= c. *leonhardi* Frhst.) p. 338, RÖBER Int. ent. Z. 25.—*M. didyma* ab. n. *radiata* Carinthia p. 65, HEROLD Carinthia II 39-40 1930.—*M. parthenoides* specific names and geographical variations pp. 100-105, etc., rr. n. *completa* p. 136, *communis* p. 137 France, *semiplena* Cevennes p. 140, *variabell* *Maritime Alps* p. 152, *nigroobscura* *Bavaria* p. 155, *vividicolore* Hungary p. 186, *poenina* Bérissal p. 188; *parthenie* Borkh. (= *lucasi* Ver.) p. 187; *diamina* classification of geographical varr. pp. 66-70, 80-81; rr. n. *magnaclara* Maritime Alps, *isarcica* Upper Adige p. 68, *pyrenaicalpestris* Hautes Pyrenees p. 70, *magnaobscura* Gironde p. 80, *orientalpestris* Carnic Alps p. 81, VERITY Ent. Rec. 43.

Neptis pryri ab. n. *kutsukakensis*; *hylas intermedia* ab. n. *uchidai* Honsyû p. 99 figs., NAKAMURA Zephyrus, Fukuoka 3.

Perisama humboldtii f. n. *alia* p. 6; *emineus* subsp. n. *oppeliana* p. 7 Peru figs., PRÜFFER Arch. Biol. Soc. Sci. Varsovie 1 no. 2 1922.

Phyciodes simois ab. n. *nigrina* Argentina pp. 51, 181 fig., HAYWARD Rev. Soc. ent. argent. 4.

Varia
parthen

Planema consanguinoides sp. n. Congo; *consanguinea* f. n. *inaequalis* Gabun; *c. albicolor* f. n. *flava* E. Africa p. 59, LE DOUX Deuts. ent. Z. 1931.

Pyrameis carye f. n. *minuscule* Argentina pp. 69, 182 fig., HAYWARD Rev. Soc. ent. argent. 4.—*P. atalanta* migration p. 205, BRISTOWE Ent. Mon. Mag. 67.—*P. cardui* biology pp. 188–190, BETZ Lambillionea 31; swarming p. 133, WARNECKE et al., Int. ent. Z. 25.

Sasakia charonda biology p. 28 figs., KAWADA Zephyrus, Fukuoka 3.

Vanessa polychloros var. *pyromelas* effect of insufficient food on colour p. 158, RUMMEL Ent. Z. 45; abb. n. *punctata*, *orichalcea* Germany p. 33, BOIS-REYMOND Z. wiss. InsektBiol. 26.—*V. l-album* in N. Bohemia p. 132, MICHEL Ent. Z. 45.—*V. urticae* biology p. 137, AUER Ent. Z., Frankfurt a. M. 45; ab. n. *impuncta* Belgium p. 98, LEMPKE Lambillionea 31.

Victorina steneles f. n. *didoïdes* Peru p. 501, FIEDLER Int. ent. Z., Guben 24.

ERYCINIDAE (RIODINIDAE).

Supplement to Erycinidae in Suppl. Vol. I, GAEDE in SEITZ Suppl. 1 pp. 351.

Notes on classification and nomenclature of some American Riodinids, HOLLAND Ann. Carnegie Mus. 20 1930 pp. 51–53.

Riodininae III (pars ultima), STICHEL Lep. Cat. 44 pp. 721–795.

Alesa telephas subsp. n. *negra* Brazil p. 390 figs., RÖBER Int. ent. Z. 24.

Apodemia paucipuncta sp. n. Brazil p. 459 figs., SPITZ Rev. Mus. paul. 17.

Calephelis wrighti sp. n. California p. 5, HOLLAND Ann. Carnegie Mus. 20 1930.

Euselasia spp. variations in Brazil pp. 36–39, 48 etc. figs., SEITZ Ent. Rdsch. 48.—*E. eucerus* stages pp. 55–56, HOFFMANN Ent. Rdsch., Stuttgart 48.

Polycaena tamerlana ff. n. *atilla*, *helcha* Chen-tengri p. 237 fig., GAEDE in SEITZ Suppl. 1 1930.

LYCAENIDAE.

Biology of various Victorian Lycaenids, BURNS Vict. Nat. 48 pp. 129–136.

Revision of Lycaenidae of Palaearctic Region, GAEDE & BOLLOW in SEITZ Suppl. 1 pp. 289–306, 1 pl.

Addenda to Lycaenidae in Suppl. Vol. I, GAEDE in SEITZ Suppl. 1 pp. 351–353.

Notes on classification and nomenclature of some American Lycaenids, HOLLAND Ann. Carnegie Mus. 20 1930 pp. 53–55.

Notes on some French Lycaenids, STEMFFER Amat. Papillons 5 pp. 241–243, 274–276.

Agriades escheri r. n. *sicca* Auvergne p. 159, VERITY Bull. Soc. ent. Fr. 1929.—*A. glandon aquilina* distribution p. 13, HIGGINS Proc. Ent. Soc. Lond. 6.

Allotinus strigatus p. 80, *borneensis* p. 81, *nicholsi* p. 83, spp. n. Borneo, MOULTON J. Straits Asiat. Soc. 60 1911.

Amblypodia caelestis, *hyacinthus* spp. n. New Guinea p. 390 figs., RÖBER Int. ent. Z. 24.

Apelles gen. n. for *Polyommatus melanops* Boisd. p. 324; *melanops* subsp. n. *williamsi* Portugal, Spain p. 331; *astraea* Frey, from *Lycaena* p. 333 figs., HEMMING Trans. Ent. Soc. Lond. 79.

Aricia nicias Mg. (= *donzelii* Boisd.) p. 499, HEMMING Trans. Ent. Soc. Lond. 79.

Biduanda hewitsonii var. n. *parva* Borneo p. 164, MOULTON J. Straits Asiat. Soc. 60 1911.

Chilades trochilus ab. n. *supraradiata* Anatolia p. 472, WAGNER Int. ent. Z. 24.

Chrysophanus dispar r. *batarus* ♀ ab. n. *posticeoatrata* Holland p. 22, d. subsp. *rutilus* ab. n. *hyalina*, *fulgurata* Germany p. 23, MEZGER Lambillionea 31; var. *rutilus* biology pp. 290–292, JACOBS Ent. Z., Frankfurt a. M. 44.—*C. charlottensis* sp. n. Queen Charlotte I. p. 6, HOLLAND Ann. Carnegie Mus., Pittsburg 20 1930.—*C. amphidamas marchica* ff. n. *ferephlaeas*, *radiata*, *fulva* Germany p. 401, HANNEMANN Int. ent. Z., Guben 24.—*C. dorilis* var. n. *intermedia*, ab. n. *semiobscurior* France p. 7, PIONNEAU Echange 47.—*C. phlaeas* f. n. *coerulea-basalis* Egypt p. 212 fig., ANDRES Bull. Soc. ent.

Egypte 1930 1931.—*C. phlaeas obsoleta* Tutt (= *p. pusilla* Ks.); *dorilis striata* Ks. identity p. 27, LEMPKE Lambillionea 31.

Cupido sebrus Hb. (= *osiris* Mg.) p. 499, HEMMING Trans. Ent. Soc. Lond. 79.

Cyaniriodes see *Lycaenopsis*.

Dolymorpha subgen. n. see *Thecla*.

Euspa milionia subsp. n. *formosana* Formosa p. 58 figs., NOMURA Zephyrus 3.

Glaucopsyche melanops Boisd. (= *saportae* Gey.) p. 500, HEMMING Trans. Ent. Soc. Lond. 79.

Heliophorus bakeri f. n. *vernalis* India p. 391, RILEY J. Bombay N.H. Soc. 33 1929.

Heodes hippothoe abb. discussed p. 182, LEMPKE Lambillionea 31.

Iolana revision pp. 323–328, *iolas* subsp. n. *thomasi* Spain p. 326, *buresschi* Bulgaria p. 327 figs., HEMMING Trans. Ent. Soc. Lond. 79.

Lampides zebra var. n. *lawasa* Borneo p. 110, MOULTON J. Straits Asiat. Soc. 60 1911.

Lehera anna var. n. *fulva* Sarawak p. 168, MOULTON t.c.

Leptotes perkinsae sp. n. Jamaica p. 534 figs., KAYE Trans. Ent. Soc. Lond. 79.

Lycaeides morphological studies on some spp. pp. 121–132 figs., STEMPFFER Ann. Soc. ent. Fr. 100.—*L. ismenias* and ff. critical notes pp. 213–219, 221 etc., BEURET Ent. Rdsch. 48.

Lycaena cyane r. n. *ella* Issykkul p. 267; *eumedon stauderi* n. n. for *meridionalis* Staud. p. 271; *lycormas* f. n. *sumpantingi* Szechuan p. 287, BOLLOW in SEITZ Suppl. 1 1930.—*L. ellisoni* sp. n. Lebanon p. 65, PFEIFFER Mitt. münchn. ent. Ges. 41.—*L. meleager* distribution in Germany pp. 185–189 map, WARNECKE Ent. Z. 45.—*L. baton* ab. n. *nana* France p. 8, PIONNEAU Echange 47.—*L. bellargus* varr. pp. 33–34, PIONNEAU Misc. ent. 33.—*L. damon* ab. n. *bivittata* Bavaria p. 133 figs., DIETRICH Ent. Rdsch., Stuttgart 48.—*L. icarus minor* Ckl. (= *i. minor* Ks.) p. 28, LEMPKE Lambillionea 31.—*L. icarus*, *icarinus*, *thersites*, *alexius* notes pp. 5–17, DERENNE Lambillionea 31.—

L. thersites f. n. *anticoglomerata* Belgium p. 2, CABEAU Lambillionea 31.—*L. hylas* f. n. *apicipunctata* Harz Mts. p. 401, HANNEMANN Int. ent. Z., Guben 24.—*L. argus* geographical varr. and evolution pp. 30–69, rr. n. *microhypochlona* Albarracin p. 38, *pseudohypochlona* S. France p. 42, *hispanafusca* Castile p. 43, *argigas* Trieste p. 47, *orientaloides* N. Persia p. 48, *hypochlona* alpina S.E. France p. 52, *claralpina* Italian Maritime Alps p. 53, *claraobscura* Savoy p. 54, *alpiumphilonome* Upper Adige p. 58, *altaegidion* Zermatt p. 59, *sophiana* Bulgaria p. 60, *clarasiatica* E. Sajan Mts. p. 62, *creataephilonome* Gironde p. 66, *pulchraphilonome* Morbihan p. 67, *austera* Lake Maggiore p. 69, VERITY Iris 45.—*L. lycidas* Mg. 1830 good sp. p. 495 24; *ismenias* critical notes pp. 129–133, 141 etc. 25 figs., HEYDEMANN Int. ent. Z.—*L. dolus* var. n. *gorgano* Apulia p. 96, WIMMERS Ent. Z. 45.—*L. divina*, *lanty* see *Scolitantides*; *heijonis* see *S. divina divina*; *astraea* see *Apelles*.

Lycaenopsis Feld. (= *Cyaniriodes* Mats.) p. 221, ESAKI Bull. Biogeogr. Soc. Japan 1 1930.—*L. puspa* f. n. *umenonis* Japan p. 44, MATSUMURA Ins. mats. 6.—*L. argiolus* synonymy of abb. p. 182, LEMPKE Lambillionea 31.

Maculinea coeligena subsp. n. *pratti* p. 329, *dubernardi* China; *spictonensis* n. n. for *coelestis* Obert. nec Alph. p. 330 figs., HEMMING Trans. Ent. Soc. Lond. 79. 27
Coel. est
sub sp.
b. 230

Plebeius optilete ab. n. *nigromaculatus* Sweden p. 251 fig., DAHL Ent. Tidskr. 51 1930.—*P. maricopa* f. n. *fenderi* U.S.A. p. 1 figs., MACY Ent. News 42.—*P. eversmanni* subsp. n. *titania* Samarkand p. 535, HEMMING Ann. Mag. N.H. (10) 8.

Polyommatus eurypilus subsp. n. *euaemon* Lebanon p. 536, HEMMING t.c.—*P. melanops* see *Apelles*.

Scolitantides divina Fixs. from *Lycaena*; *divina divina* Fixs. (= *L. heijonis* Mats.) p. 577; *d. barine* Leech further description; *d. asonis* Mats. discussed p. 578; *lanty* Oberth. from *Lycaena* (with subsp. n. *patrocles* Amdo) p. 579, HEMMING Ann. Mag. N.H. (10) 8.

Spalginae subfam. n. p. 244, HOLLAND The Butterfly Book, 1931.

Thecla, *Dolymorpha* subgen. n. for *jada* Hew. p. 228, HOLLAND t.c.—*T.*

Uranops

boyi sp. n. Brazil p. 391, RÖBER Int. ent. Z. 24.—*T. violescens, seitzii* p. 48, *taunayi* p. 50, *melzeri* p. 51, spp. n. Brazil, SPITZ Rev. Ent. S. Paulo 1.

Zephyrus betulae morphology, breeding, biology pp. 229–235 figs., OCHMANN Int. ent. Z. 25; subsp. n. *gaimana* Korea p. 50 [in Japanese] figs., DOI & CHO J. Chosen Nat. Hist. Soc. 12.—*Z. butleri* subsp. n. *souyoensis* Korea p. 48 [in Japanese] figs., DOI J. Chosen Nat. Hist. Soc. 12.—*Z. taiheizana* sp. n. Formosa p. 59 figs., NOMURA *Zephyrus* 3.—*Z. quercus* ab. n. *nana* France p. 8, PIONNEAU *Echange* 47.

Zizera maha var. n. *kashikurai*? Japan p. 113, NAKAMURA *Lansania* 2 1913 [not seen].

PIERIDAE.

Revision of Palaearctic Pieridae, BOLLOW in SEITZ Suppl. 1 pp. 332–335.

The generic synonymy of N. American Pieridae, KLOTS Ent. News 42 pp. 253–256.

The distribution of Pieridae and their food-plants and the latter's chemical constitution, KUZNETZOV Annu. Mus. zool. Acad. Leningrad 31 1930 pp. 49–63.

Notes on Pieridae from Supplement to Seitz' Gross-Schmetterlingen der Erde, SHELJUZHKO Int. ent. Z. 25 pp. 72–74.

Andropodum Scudd. (= *Glutophrissa* Btlr.) p. 227, TALBOT Entomologist 64.

Anthocharis cardamines ab. n. *subflavopicta* Belgium p. 115, MEZGER *Lambillionea* 31.—*A. (Euchloe)* *cardamines* notes on var. p. 350, UFFELN Ent. Z. 44.—*A. sara* ff. n. *corcorani* Los Angeles, *sulfuris* Idaho p. 45, GUNDER Bull. S. Calif. Acad. Sci. 30.—See *Mancipium* and *Ascia*.

Aphrissa revision 14 pp., keys p. 2, *statura neleis* ♀ f. n. *poeyae* Cuba p. 10, s. *jada* ♀ f. n. *stalba* Honduras p. 12 figs., BROWN Amer. Mus. Nov. 454.

Aporia crataegi morphology, biology, parasites pp. 171–241 figs., MARTELLI Boll. Lab. Zool. Portici 25; ab. *minor* author Verity not Oberth.; ab. *minima* Cab. a good ab. p. 70, DE SANDT *Lambillionea* 31.

Ascia Scop. (= *Mancipium* Hb., type *monuste* L.) p. 273, HEMMING Entomologist 64.—*A. monuste* var. n. *crameri* S. America p. 256, HOLLAND Ann. Carnegie Mus. 20; also p. 278 fig. The Butterfly Book, 1931.

Belenois mesentina migratory flight in E. Africa p. 35 map, WILLIAMS Proc. R. Phys. Soc. Edinb. 22.

Cathaemia Hb. (= *Piccarda* Grote) p. 229, TALBOT Entomologist 64.

Catopsilia statira hartoni synonymy p. 533, KAYE Trans. Ent. Soc. Lond. 79.

Cepora Billb. (= *Huphina* Moore) p. 228, TALBOT Entomologist 64.

Charonias type *eurytele* Hew. p. 228, TALBOT t.c.

Colias F. (= *Gonepteryx* Leach) type *rhamni* L. p. 228, TALBOT t.c.—*C. croceus* notes on varr.; c. *minor* Pionn. not a synonym of c. *ridicula* Alph. p. 15; c. *helice* ab. n. *seriata* Italy p. 16, PIONNEAU *Echange* 47.—*C. croceus* *helicina* variations pp. 88–94, FRÉMONT *Lambillionea* 31.—*C. croceus* *marginata* discussed p. 46, DE SANDT *Lambillionea* 31.—*C. hyale* *pygmaea* Lmbll. (= h. *minor* Ks.) p. 26, LEMPKE *Lambillionea* 31.—*C. palaeno* *illgneri* habitat p. 181, HOLIK Ent. Z., Frankfurt a. M. 45.—*C. auct.* see *Eurymus*; *hyale* see *Coliastes*.

Coliastes gen. n. for *Colias* *hyale* L. p. 273, HEMMING Entomologist 64.

Colotis Hb. (= *Teracolus* Sw.) p. 228, TALBOT Entomologist 64.

Cunizza status p. 229, TALBOT t.c.

Daptonoura laria f. n. *alba* Brazil p. 35, RIBEIRO Bol. Mus. nac. Rio de Janeiro 7.

Davidina transferred to *Satyridae* p. 229, TALBOT Entomologist 64.

Delias lemoulti sp. n. Timor p. 110, TALBOT t.c.

Dismorphia theugenis subsp. n. *linealis* Peru p. 4 fig., PRÜFFER Arch. Biol. Soc. Sci. Varsovie 1 no. 2 1922.—*D. dissimulata* p. 233, *aigma* p. 234, spp. n. Brazil figs., D'ALMEIDA Ent. Z. 45.

Euchloe ausonia Hb. (= *marchandae* Gey.) p. 499, HEMMING Trans. Ent. Soc. Lond. 79.—*E. belia* f. *ausonia* ab. n. *punctata* ~~Belgium~~ p. 82, MEZGER *Lambillionea* 31.—*E. crameri* distribution

pp. 188-191, DEMAISON; p. 207, FEBVAY DU COUÉDIC Amat. Papil. 5.—*E. belia* var. n. *gigantea* Rumania p. 16, CARADJA Mem. Sect. Stiint. Acad. Romăna (3) 7 no. 8.—*E. cardamines* see *Anthocharis*.

Eurema Hb. (= *Terias* Sw.) p. 229, TALBOT Entomologist 64.

Eurymus Sw. (= *Colias* auct.) type *hyale* L. p. 228, TALBOT t.c.—*E. hardfordi* f. n. *martini*; *chippewa* f. n. *kohlsaatii* California p. 45, GUNDER Bull. S. Calif. Acad. Sci. 30.

Glutophrissa see *Andropodum*.

Gonepteryx see *Colias*.

Herpaenia see *Pinacopteryx*.

Huphina nerissa hybrid p. 172 fig., FORGE Ent. Rdsch., Stuttgart 48.—See *Cepora*.

Leptidea sinapis discussed p. 273, HEMMING Entomologist 64.—*L. morsei*, *major*, *sinapis* relations discussed pp. 9-13, 37 etc. figs., LORKOVIĆ Z. öst. EntVer. 16.—*L. sinapis morsei* ab. n. *yuasai* Sapporo p. 95 figs., NAKAHARA Zephyrus, Fukuoka 3.—See *Leptosia*.

Leptoria see *Leptosia*.

Leptosia Hb. discussion of type p. 273, HEMMING Entomologist 64; (= *Leptidea* Billb., *Leucophasia* Steph., *Leptoria* Steph.) p. 230, TALBOT Entomologist 64.—*L. velocissima* biology p. 151, KRUGER Boll. Soc. ent. ital. 63.

Leucochloë see *Pontia*.

Leucophasia see *Leptosia*.

Mancipium Steph. (= *Anthocharis* Bdv.) type *cardamines* p. 230, TALBOT Entomologist 64.—See *Ascia*.

Meganostoma see *Zerene*.

Nina Horsf. type *xiphia* F. p. 231, TALBOT Entomologist 64.

Parapieris see *Synchloë*.

Pereute charops subsp. n. *sphocra* Mexico p. 103, DRAUDDT Ent. Rdsch. 48.

Phrissura Butl. type *illana* Feld. p. 231, TALBOT Entomologist 64.

Piccarda see *Cathaemia*.

Pieris narcaea Frr. (= *ergane* Gey.) p. 298, HEMMING Trans. Ent. Soc. Lond. 79.—*P. phileta automata* migration pp.

225-232, HAYWARD Rev. Soc. ent. argent. 3.—*P. buniae* f. n. *matto grossensis* Brazil p. 34, RIBEIRO Bol. Mus. nac. Rio de Janeiro 7.—*P. rapae* ab. n. *conjuncta* Belgium p. 82, MEZGER Lambillionea 31.—*P. napi* biology in N. America p. 262, ROTHKE Int. ent. Z. 25; var. *bryoniae* abb. n. *nova* p. 77, ♂ *kautzi*, ♂ *thurneri* Austrian Alps p. 78, GORNIK Z. öst. EntVer. 16; var. *sabellicae* discussed pp. 99-102, LEMPKE Lambillionea 31.—*P. brassicae* early stages described pp. 43-49 figs., BERTOLINI Atti Acc. sci. ven.-trent.-istr. (3) 20 1929; orientation in larvae pp. 629-655 figs., WOJCIUSIAK Bull. int. Acad. Cracovie 1930 B.

Pinacopteryx Wllgr. (= *Herpaenia* Butl.) p. 231, TALBOT Entomologist 64.

Pontia F. (= *Leucochloë* Rüb.) p. 231, TALBOT t.c.

Synchloë Hb. discussed p. 273, HEMMING Entomologist 64; (= *Parapieris* de Nicév.) p. 232, TALBOT Entomologist 64.

Teracolus criticism of le Doux's "Beiträge zur Kenntnis der afrikanischen Teracoliden" 1929 pp. 253-264, STRAND Acta Univ. Latviensis Mat. Dabasz. Fak. Ser. I. 9.—See *Colotis*.

Terias venata seasonal var. of *laeta* p. 1094, MOSSE J. Bombay N.H. Soc. 34.—See *Eurema*.

Zegris eupheme meridionalis pupation pp. 52-54, POWELL Proc. Ent. Soc. Lond. 6.

Zerene Hb. (= *Meganostoma* Reak.) p. 232, TALBOT Entomologist 64.

PAPILIONIDAE (BARONIIDAE, PARNASSIIDAE, TEINOPALPIDAE).

Addenda to Papilionidae in suppl. Vol. I, BOLLOW in SEITZ Suppl. 1 pp. 327-332.

Catalogue of Baroniidae, Teinopalpidae, Parnassiidae, BRYK Lep. Cat. 27 1923 pp. 1-247.

Notes on Papilionidae in Supplement to Seitz' Gross-Schmetterlinge der Erde, SHELJUZHKO Int. ent. Z. 25 pp. 69-72.

Baronia brevicornis f. n. *gehleni* Mexico p. 8, BRYK Parnassiana 1 no. 7-8.

Ornithoptera plato f. n. *delormei* Timor p. 1, LE MOULT Novit. ent., Paris 1.—*O. lydius* ab. n. *flammeus* Halmahera I. p. 485 fig., NIEPALT Int. ent. Z. 24.

Papilio, European and Asiatic insular parallel forms pp. 1–13, MARTIN Mitt. münchn. ent. Ges. 21.—*P. titipu* n. n. for *mikado* Leech nec Pag. p. 16, NAKAHARA Zephyrus 2 1930.—*P. hahneli* ab. n. *subfasciatus* Peru p. 389 24; *phaon* f. n. *nero* Colombia p. 337 25 fig., RÖBER Int. ent. Z.—*P. daunus* in Kansas, biological note p. 111, CALKINS Ent. News 42.—*P. aristor* both sexes from San Domingo p. 62, JORDAN Proc. Ent. Soc. Lond. 6.—*P. babaulti* sp. n. Belgian Congo p. 275, LE CERF Bull. Soc. ent. Fr. 1931.—*P. asterius* ab. n. *gertrudis* Mexico p. 236 fig., KRUCK Ent. Rdsch. 48.—*P. bianor* subsp. n. *koreanus* Korea p. 296, KOTZSCH Int. ent. Z. 25.—*P. nobilis* f. n. *pallidus* no. 1 p. 1; *philonoe* f. n. *dulcinea* no. 2 p. 1; *constantinus* f. n. *chrysothemis* no. 3 p. 1 Kenya, STONEHAM Bull. Stoneham Museum, Kitale, Kenya.—*P. memnon venusia* f. n. *caudatus* Batu I. or Sumatra p. 486 fig., NIEPALT Int. ent. Z. 24.—*P. thairwanus* ab. n. *e-fasciatus* Formosa p. 103 fig., MITONO Zephyrus, Fukuoka 3.—*P. quadratus spoliatus* ab. n. *quadratus-punctatus* Amazonas p. 166, MICHAEL Ent. Z. 45.—*P. thoas* subsp. n. *flavibrunneus*; *lycophron* subsp. n. *brunneus*; *aristeus* subsp. n. *humbiensis* p. 2; *harmodius* subsp. n. *vitalis*; *glaucolus* subsp. n. *sztolcmani* p. 3 Peru figs., PRÜFFER Arch. Biol. Soc. Sci. Varsovie 1 no. 2 1922.—*P. sarpedon nipponus* ab. n. *suzukii* p. 1; *s. sarpedonides* ab. n. *hankyensis* p. 2 Japan figs., TOSAWA Trans. Kansai Ent. Soc. 1 1930.—*P. machaon* notes on some varr. p. 210, BRAUN Lambillionea 31; biology pp. 164–167, FONTAINE Lambillionea 31.—*P. polyzelus* f. n. *albi-punctus*; *garamas* ab. n. *homeroides* Mexico p. 103, DRAUDT Ent. Rdsch. 48.—*P. xuthulus, machaon* melanic forms p. 191 figs., BANDERMANN Int. ent. Z. 25.—*P. rumanzovia* f. n. *teichianus* Formosa p. 464 fig. [in Japanese], MATSUMURA 6000 Ill. Ins. Japan 1931; English description in Ins. mats. 6 p. 43.

Parnassius revision based on material in Eisner's collection pp. 11–15 (no. 7–8), variation in antennae p. 5 (no. 6), (*Kailasius*) *charltonius* subsp. n. *eis-*

nerianus p. 1; *stenosemus* subsp. n. *divinus* p. 3 Kashmir; *mnemosyne perkele* f. n. *radiomarginata* Finland; *hardwickei* f. n. *inpicta*; *nomion richthofeni* f. n. *subcostatulpicta* no localities p. 4; *smintheus* subsp. n. *idahoensis* U.S.A. p. 5; *phoebus* subsp. n. *ochotskensis* Kamtchatka p. 6 (no. 5); *actius* and its rr. pp. 1–2, subsp. n. *pseudobrutus* Djarkend p. 2; *apollo bellingi* n. n. for *altitudinis* Bryk & Eisn. nec Bryk p. 5; *mnemosyne mixtus* ab. n. *intermediatus* Tyrol p. 6; *charltonius* ff. n. *mediorubrodivisio-cellata* no locality, *bruneocellata*, *rubro-amphiusanalis* Baltistan; *imperator* ff. n. *additionalis*, *exanalis*, *connexobasalis*, *supracohaerensmedius*, *nigrobasalis*, *ocelloconnexa* p. 8 no localities (no. 6); *mnemosyne* subsp. n. *pfeifferi* Asia Minor p. 2; *szechenyi* subsp. n. *kansuensis*, *tripicta* p. 7, *interpunctatus*, *lethe* p. 8; *jacquemonti* subsp. n. *tibetanulus* p. 8 China; *apollonius* f. n. *tripicta* Transalai p. 15 no. 7–8 figs., BRYK & EISNER Parnassiana 1.—*P. mnemosyne* subsp. n. *republicanus* Spain p. 4; *clarius dentata* ab. n. *primopicta* Altai p. 5, PEEBLES & BRYK op. cit. no. 6.—*P. apollo* ab. n. *hoferi*, *plaselleri*, *deutsch*, *olgae*, *felix* Tyrol p. 7, WENZEL t.c.—*P. delphius* subsp. n. *mephisto* (with ff. n. *alba*, *obscura* p. 5) Aksu p. 4 figs., HERING op. cit. no. 7–8.—*P. glacialis* good sp. p. 10, HERING t.c.—*P. mnemosyne dioszeghyi* n. n. for *transsylvanica* Diosz. nec Schweitz p. 4, BRYK Parnassiana 1 1930 no. 2.—*P. mnemosyne* subsp. n. *transsylvanica* Transsylvanica p. 198 fig., DIOSZEGHY Verh. siebenbürg. Ver. Naturw. 79–80 1930.—*P.* notes on distribution of some world groups pp. 39–44, EISENHARDT Bull. Brooklyn Ent. Soc. 26; dependance of eyespots on wing-veins pp. 149–174, 32 figs., BRYK Zool. Jahrb. Syst. 62.—*P. apollo* biology pp. 165–170, PORTIER Amat. Papil. 5; necessity for protection pp. 134–144 fig., WERNER Veröffent. Staat. Stelle Naturschutz 3 1926; f. *magnopupillata* Rocci (= f. *turatii* Mariani) p. 23, MARIANI Boll. Soc. ent. ital. 63; ab. n. *oberthurrenata* Belgium p. 115, LEIGH Lambillionea 31; subsp. n. *eremita* S. Tyrol p. 94, BELLING Int. ent. Z., Guben 25.—*P. epaphus* f. n. *sabaudus* Himalayas p. 140, TURATI Boll. Soc. ent. ital. 63.—*P. mnemosyne* pairing and sphragis p. 135, KLAUE Ent. Z. 45.

Sericinus telamon f. n. *mandschurica* Manchuria p. 16, VON ROSEN in SEITZ Suppl. 1 1929.

HESPERIIDAE.

List of HesperIIDae from Barro Colorado I., Canal Zone and adjacent Panama, BELL J. N.Y. Ent. Soc. 39 pp. 81-108, 1 fig.

Studies on the Pyrrhopyginae, BELL J. N.Y. Ent. Soc. 39 pp. 417-480, 6 pls.

Supplement to Palaearctic HesperIIDae, BOLLOW in SEITZ Suppl. 1 p. 353.

Revision of HesperIIDae, GAEDE in SEITZ Suppl. 1 pp. 307-326.

Notes on classification and nomenclature of some American HesperIIDae, HOLLAND Ann. Carnegie Mus. 20 pp. 258-264.

Revision of Hesperioidea of N. America, new edn., LINDSEY, BELL & WILLIAMS J. Sci. Labs. Denison Univ. 26 pp. 1-142, 33 pls.

Catalogue of Pyrginae of the world, SHEPARD Lep. Cat. 47 pp. 1-144.

Cuban HesperIIDae, WILLIAMS Trans. Amer. Ent. Soc. 57 pp. 305-318, 1 pl. 14 figs. 1 chart.

HesperIIDae of the Forbes Expedition to Dutch and Br. Guiana, WILLIAMS & BELL Trans. Amer. Ent. Soc. 57 pp. 249-287, 34 figs.

Adopaea lineola new to U.S.A. p. 503, RAWSON J. N.Y. Ent. Soc. 39; ab. *pallida* new to Poland p. 74, WOJTUSIAK Polsk. Pismo ent. 10.

Atrytone barbara sp. n. Surinam p. 271 figs., WILLIAMS & BELL Trans. Amer. Ent. Soc. 57.

Carystus coxeyi sp. n. Ecuador, Peru p. 526 fig., BELL J. N.Y. Ent. Soc. 39.

Choranthus lilliae sp. n. Jamaica p. 220 fig., BELL Ent. News 42.

Cobalus mubevensis sp. n. Paraguay, Brazil p. 523 fig., BELL J. N.Y. Ent. Soc. 39.

Cogia freudiae sp. n. Surinam p. 257 figs., WILLIAMS & BELL Trans. Amer. Ent. Soc. 57.

Entheus mina sp. n. Surinam p. 260 figs., WILLIAMS & BELL t.c.

Epargyreus perkinsi sp. n. Jamaica p. 536 figs., KAYE Trans. Ent. Soc. Lond. 79.

Erynnis juba ab. n. *ogdenensis* Utah p. 372 fig., HOLLAND The Butterfly Book 1931.

Eudamus undulatus early stages p. 36, HAYWARD Ent. Rec. 43.—*E. coxeyi* sp. n. Ecuador p. 289 fig., WILLIAMS Trans. Amer. Ent. Soc. 57.

Euroto saramacca Surinam p. 276, potaro Br. Guiana p. 277, spp. n. figs., WILLIAMS & BELL Trans. Amer. Ent. Soc. 57.

Eutocus illepidus sp. n. Paraguay p. 527 fig., BELL J. N.Y. Ent. Soc. 39.

Eutychide insularis sp. n. Trinidad p. 525 fig., BELL t.c.

Gangara thyrsis larva p. 11, COCKERELL Bull. Brooklyn Ent. Soc. 26.

Gegeus nostrodamus, *pumilio* differences, nomenclature and Italian localities pp. 106-112; n. r. n. *pumilionima* Italy p. 111 figs., VERITY Boll. Soc. ent. ital. 63.—*G. monochroa* sp. n. Sokotra I. p. 77 figs., REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Hesperia armoricanus subsp. n. *philonides* Lebanon p. 534, HEMMING Ann. Mag. N.H. (10) 8.—*H. mangana* sp. n. S. Arabia p. 360, REBEL Anz. Akad. Wiss. Wien 36 1899.—*H. magnagallica* n. n. for *occidentalis* Luc. nec Skinn. p. 201, VERITY Bull. Soc. ent. Fr. 1931.

Hidari thracimima sp. n. China p. 199, VERITY t.c.

Limochores insolata ♀ p. 537 fig., KAYE Trans. Ent. Soc. Lond. 79.

Megathymus leussleri sp. n. Nebraska p. 262, HOLLAND Ann. Carnegie Mus. 20.—*M. mariae* biology, descriptions p. 264, BONNIWELL Ann. Carnegie Mus. 20.

Megistias ignarus sp. n. Bolivia, Surinam p. 526 fig., BELL J. N.Y. Ent. Soc. 39.

Mnasitheus zeteki sp. n. Barro Colorado I. p. 100 fig., BELL t.c.

Oenrus kayei sp. n. Trinidad p. 524 fig., BELL t.c.

Perimeles stollmeyeri sp. n. Trinidad p. 524 fig., BELL t.c.

Phanus godmani sp. n. Costa Rica p. 286 figs., WILLIAMS & BELL Trans. Amer. Ent. Soc. 57.

Phocides palemon ab. n. *gunderi* Br. Guiana p. 251, WILLIAMS & BELL t.c.

Poanes massasoit subsp. n. *hughi* Maryland p. 7 figs., CLARK Ann. Carnegie Mus., Pittsburg 21.—*P. melane* biology and early stages p. 20 figs., COMSTOCK & DAMMERS Bull. S. Calif. Acad. Sci., Los Angeles 30.

Pyrrhopyge tarapotoensis p. 426, *williamsi* Peru, *attis* p. 429, *rileyi* p. 430, *draudti* p. 436, *mina* p. 438 Bolivia, *amythaon* p. 430, *mariae* p. 455 Brazil, *pseudophidias* Colombia p. 434, *andronicus* p. 436, *schausi* p. 443 Ecuador, *adonis* p. 455, *carriæ* p. 459 Paraguay, *ganymedes* Colombia p. 473, spp. n. figs., BELL J. N.Y. Ent. Soc. 39.

Sarangesa eliminata subsp. n. *deserticola* S. Arabia p. 75 fig., REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Systasea latifasciata sp. n. Brazil p. 460 figs., SPITZ Rev. Mus. paul. 17.

Thanaos avinoffi sp. n. Yukon Valley p. 352 figs., HOLLAND The Butterfly Book 1931.

Thracides currani sp. n. Surinam p. 528, BELL J. N.Y. Ent. Soc. 39.

Urbicola comma r. n. *indicafusca* India p. 200, VERITY Bull. Soc. ent. Fr. 1931.

Vehilius forbesi sp. n. Br. Guiana p. 280 fig., WILLIAMS & BELL Trans. Amer. Ent. Soc. 57.

Yanguna blossomiæ sp. n. Ecuador p. 288 fig., WILLIAMS Trans. Amer. Ent. Soc. 57.—*Y. mopsus* p. 233, *timæus* p. 236 Peru, *creusæ* Fr. Guiana p. 233, *sarpedon* Amazonas p. 234, *tetricus* Roraima p. 235 spp. n.; *arinas* f. n. *temenos* Peru p. 234, BELL Entomologist 64.

Heterocera.

List of moths of Eastbourne, ADKIN Trans. Eastb. N.H. Soc. 10 suppl. 1 1930 100 pp. 30 pls. 1 map; suppl. 2 1931 98 pp. 25 pls. 1 map.

Microlepidoptera of Mark Brandenburg, AMSEL Iris 45 pp. 147–201.

Biology of Bombyces, AUE Beilage in Ent. Z. 44 1930 pp. 141–144, 1931 pp. 145–152, 45 pp. 161–164.

Biology of some Microlepidoptera. IV, BENANDER Z. wiss. Insekt. Biol. 26 pp. 48–54, 2 figs.

Microheterocera of Kaschka-Darja. S.E. Bokhara, GERASIMOV Annu. Mus. zool. Leningrad 31 1930 pp. 21–48, 10 pls.

List of moths from Bornholm, HOFFMEYER Flora og Fauna 1931 pp. 1–16, 2 figs.

List of moths of Bornholm I., Denmark, HOFFMEYER & KNUDSEN Flora og Fauna 1931 pp. 129–136, 1 fig.

New records of Microlepidoptera from New York, KLOTS J. N.Y. Ent. Soc. 39 pp. 291–293.

On the rearing of Lymantriidae and Saturniidae, PARISER in PÉTERFI Meth. Wissenschaftl. Biol. Allg. Physiol. 2 1928 pp. 290–300, 2 figs.

Biology of Microlepidoptera, their food-plants and times of appearance, SCHÜTZE Biol. Kleinschmett. 1931 235 pp. 2 figs.

Some moths new to the fauna of Yakushima I., TAKEUCHI Trans. Kansai Ent. Soc. 1 1930 pp. 49–52.

Annotated list of Microlepidoptera of Westphalia, UFFELN Abh. Westf. Prov.-Mus. Naturk. 1 1930 pp. 1–98.

Microlepidoptera of the Canton Tessin and Mesox Valley, Grisons, Switzerland, VORBRODT Iris 45 pp. 91–140.

SYNTOMIDAE.

Supplement to Palaearctic Syntomidae, DRAUDT in SEITZ Suppl. 2 pp. 53–60, 1 pl.

Syntomidae of Pará, Brazil, ZERNY Ann. naturh. Mus. Wien 45 pp. 225–263.

Abrochia spitzi sp. n. Brazil p. 15 fig., ZERNY Iris 45.

Aclytia reducta ab. n. *deleta* Brazil p. 253, ZERNY Ann. naturh. Mus. Wien 45.—*A. conjecturalis* sp. n. Brazil p. 47, DRAUDT Ent. Rdsch. 48.

Agryta dichotoma sp. n. Colombia p. 47, DRAUDT t.c.—*A. grandimacula* sp. n. Ecuador p. 21 fig., ZERNY Iris 45.

Atypopsis roseiceps further description p. 18, ZERNY t.c.

Autochloris flavocincta Guér. (= *simulans* Druce) p. 6; *vetusta* sp. n. locality unknown p. 7 fig., ZERNY t.c.—*A. completa* Wlk. (= *whitelyi* Druce) p. 230, ZERNY Ann. naturh. Mus. Wien

45.—*A. consociata* Wlk. not synonym of *bijuncta* Wlk. p. 151; *flavosignata* Br. Guiana, *nigridior* Brazil, *magnifica* (with *subsp. n. reducta* Bolivia p. 152, *rufipes* Peru), *flavicosta*, *buchwaldi* Ecuador p. 153 *spp. n.*, ROTHSCHILD Novit. zool. 37.

Cacostatia umbraticola Klag. (= *germana* Roths.) distinct from *ossa* Druce p. 20, ZERNY Iris 45.

Calonotus acutipennis p. 242, *angustipennis*, *aequimaculatus* p. 243, *spp. n.* Brazil, ZERNY Ann. naturh. Mus. Wien 45.

Ceramidia pinguis *sp. n.* Bolivia p. 18 fig., ZERNY Iris 45.

Cercopimorpha hoffmanni *sp. n.* Brazil p. 15 fig., ZERNY t.c.

Cepcladia seitzi *sp. n.* Brazil p. 36, DRAUDT Ent. Rdsch. 48.

Chrostosoma infuscatum *sp. n.* Colombia; *haematica* Perty (= *zantes* H.-S., *decisa* Wlk.); *fenestrina* Butl., *dolens* Wlk., *stulta* H.-S., *chalconitis* Druce distinct *spp. n.* p. 157, ROTHSCHILD Novit. zool. 37.

Correbia rufescens *subsp. n.* Colombia Colombia p. 26, ZERNY Iris 45.

Cosmosoma centrale Wlk., *Glaucopsis ada* H. S. ♂ of; *thia* Druce (= *Gymnelia zelosa* Dogn.) p. 9, ZERNY t.c.—*C. consolatium* Wlk. (= *thoracicum* Schaus) p. 236, ZERNY Ann. naturh. Mus. Wien 45.—*C. hercynita* Mexico p. 34, *difficilis* Colombia p. 35, *spp. n.*, DRAUDT Ent. Rdsch. 48.—*C. teuthras* at sea pp. 138–139, CURTIS Entomologist 64.

Desmotricha josoides *sp. n.* Brazil p. 20 fig., ZERNY Iris 45.

Dysauxes punctata ff. *n. burgeffi* Greece, *taurica* Andana p. 58, DRAUDT in SEITZ Suppl. 2.

Episcepsis nereus *sp. n.* Brazil p. 248, ZERNY Ann. naturh. Mus. Wien 45.—*E. rotundipennis* Bolivia p. 16, *melano-neura*, *flavipuncta* Brazil p. 17, *spp. n.* figs., ZERNY Iris 45.

Epitoxis see *Syntomis*.

Eressa buddha *sp. n.* Assam p. 4 fig., ZERNY Iris 45.

Eucereon maternum Peru p. 24, *lychnis* p. 22, *sericeum* p. 25 Brazil, *spp. n.* figs., ZERNY t.c.—*E. colimae*,

argutum Mexico, *distractum* p. 58, *displicatum* (with f. *n. obscurior*) p. 57 *spp. n.*; *maja* f. *n. columbiana* Colombia p. 58; *pseudarchias* f. *n. mexicanum* Mexico p. 57, DRAUDT Ent. Rdsch. 48.

Eurota catalogue of Argentine *spp. n.* 188, *igniventris* (♀ p. 312) *var. n.* *breyeri* p. 191; *hermione* (♀ p. 312) *var. n. polonia*; *julia* *sp. n.* p. 196; *jörgenseni* *n. n.* for *paraguayensis* Jörg. nec Schrot. (with *var. n. minuta*) p. 197; *strigiventris* Guér. (= *helena* H.-S.) p. 313 (with *varr. n. dallasi* p. 198, *harringtoni* p. 199, *subsp. n. famatina* p. 311, *tucumana* p. 312); *nigrincincta* Hmps. (= *spagazzinii* Jörg. p. 189, *xanthosoma* Hmps. p. 313) (with *abb. n. köhleri*, *breyeri* p. 200, *nossowitzi* p. 201) Argentina; *cosquinensis* Giac. to *Leucotmemis pleuraemata paranensis* Schrot. p. 201; *picta* H.-S. (= *elegans* Druce) p. 189 figs., ORFILA Rev. Soc. ent. argent. 3.—*E. picta* *ab. n. obsoleta* Brazil p. 46, DRAUDT Ent. Rdsch. 48.

Glaucopsis ada see *Cosmosoma centrale*.

Gymnelia flavicapilla Venezuela, *felderi*, *abdominalis* Amazonas, *peculiaris* Bolivia, *spp. n.* p. 154, ROTHSCHILD Novit. zool. 37.—*G. zelosa* see *Cosmosoma thia*.

Heliura hagmanni *sp. n.* p. 257; *zonata* *ab. n. aurantiaca* p. 258 Brazil, ZERNY Ann. naturh. Mus. Wien 45.—*H. rhodocryptoides* Brazil p. 47, *episcepsidis* Bolivia p. 48, *spp. n.*, DRAUDT Ent. Rdsch. 48.

Herea collaris distinct from *ruficeps* p. 14, ZERNY Iris 45.

Histiaea cepheus f. *n. taperinhae* Amazonas p. 46, DRAUDT Ent. Rdsch. 48.

Homococera multipuncta Brazil, *affinis* Venezuela, *spp. n.* p. 151, ROTHSCHILD Novit. zool. 37.

Hyda excelsa *sp. n.* Brazil p. 158, ROTHSCHILD t.c.

Ichoria thyraea Colombia p. 10, *pyrrhonota* Brazil p. 11, *spp. n.* figs., ZERNY Iris 45.—*I. mexicana* *sp. n.* Mexico p. 35, DRAUDT Ent. Rdsch. 48.—*I. semipopa* see *Phoeniostacta haematobasis*.

Isanthrene colimae *sp. n.* Mexico p. 33, DRAUDT Ent. Rdsch. 48.

Ixylasia schausi ♀ p. 19, ZERNY Iris 45.

Leucotmemis vincentia sp. n. Colombia p. 8 fig., ZERNY t.c.—*L. pleuraemata paranensis* Schrott. (= *Eurota cosquinensis* Giac.) p. 201, ORFILA Rev. Soc. ent. argent. 3.—*L. simillima* sp. n. Brazil p. 35, DRAUDT Ent. Rdsch. 48.

Loxophlebia semiauriantia; *roseispectus* Brazil, *asmodeoides* Colombia, spp. n. p. 156, ROTHSCHILD Novit. zool. 37.

Mallodeta simplex sp. n. Paraguay p. 155, ROTHSCHILD t.c.

Mesothen tigrina sp. n. p. 156; *ockenedi* subsp. n. *restricta* p. 157 Venezuela, ROTHSCHILD t.c.—*M. pyrrhina* ab. n. *derubrata* Brazil p. 8, ZERNY Iris 45.

Napata albipalpis Bolivia, *hoppi* Colombia, spp. n. p. 46, DRAUDT Ent. Rdsch. 48.

Phaenarete diana ♀ p. 19, ZERNY Iris 45.

Pheia pseudelegans, *insignis*, *fuscicornis* Brazil p. 155, *simillima* Colombia p. 156, spp. n., ROTHSCHILD Novit. zool. 37.

Phoenicoprocta vacillans f. n. *nigricoxa*; *rubriventris* subsp. n. *amazonica* Brazil p. 231, ZERNY Ann. naturh. Mus. Wien 45.—*P. punicea* f. n. *aurantipatagiata* Brazil p. 34, DRAUDT Ent. Rdsch. 48.

Phoeniostacta haematobasis Hmps. (= *Ichoria semiopaca* Dogn.) p. 11, ZERNY Iris 45.

Pompiliodes acroleuca sp. n. Bolivia; *obliqua* Hmps. ♀ of *aliena* Wlk. p. 6 fig., ZERNY Iris 45.

Pseudosphenoptera boyi sp. n. Brazil p. 252, ZERNY Ann. naturh. Mus. Wien 45.—*P. chrysorrhoea* sp. n. Brazil p. 47, DRAUDT Ent. Rdsch. 48.

Pseudosphex fuscus sp. n. Colombia p. 5, ZERNY Iris 45.—*P. ichneumonea* H.-S. (= *novercida* Kaye) p. 149; *crabronis* Druce (= *ichneumonea* Hamps. nec H.-S.); *parallela* sp. n.; *polistes* subsp. n. *uniformis*; *caurensis* subsp. n. *paraensis*; *crabronis* subsp. n. *venezuelensis* Venezuela p. 150, ROTHSCHILD Novit. zool. 37.—*P. joinvillea* sp. n. Brazil p. 33, DRAUDT Ent. Rdsch. 48.

Psilopleura vitellina sp. n. Brazil p. 34, DRAUDT t.c.—*P. meridionalis* sp. n. Paraguay p. 11 fig., ZERNY Iris 45.

Ptychotrichos fenestriker sp. n. Brazil p. 254, ZERNY Ann. naturh. Mus. Wien 45.

Rhynchopyga ochreiventris sp. n. Colombia p. 35, DRAUDT Ent. Rdsch. 48.

Sarosa pseudohelotes sp. n. Santo Domingo p. 153 (with subsp. n. *intensior* Venezuela p. 154), ROTHSCHILD Novit. zool. 37.

Saurita pilipennis sp. n. Colombia p. 12 fig., ZERNY Iris 45.—*S. strymoides* Mexico, *myrrhina*, *admota* p. 45, *araguarana* p. 46 Brazil, spp. n., DRAUDT Ent. Rdsch. 48.

Sphecosoma curta Peru p. 150, *flaveolum* Venezuela p. 151, spp. n., ROTHSCHILD Novit. zool. 37.

Syntomis (= *Epitoxis* Hmps.) p. 5, *gracillima* Belgian Congo p. 1, *hunana*, *handel-mazzettii* S. China p. 2, *anatolica* Asia Minor p. 3 spp. n.; *miozona magilensis* Strand (= *magila* Strand); *cerbera kilimandjaronis* Strand (= *hanningtoni* Seitz) p. 1 figs., ZERNY Iris 45.—*S. passalis* effect of external factors on development p. 296, JANISCH Z. Morph. Oekol. Tiere 22.

Teucer imbecillus sp. n. Brazil p. 248, ZERNY Ann. naturh. Mus. Wien 45.

ARCTIIDAE (including

HYPSIDAE and PERICOPIDAE).

Catalogue of Pericopinae, BRYK Lep. Cat. 45 57 pp.

Supplement to Palaearctic Arctiidae, DRAUDT in SEITZ Gross-Schmett. 2 pp. 61–80, 3 pls.

Neotropical Pericopinae in the Polish Zoological State Museum collection, KREMKY Ann. Mus. zool. polon. 9 pp. 167–178, 4 pls.

Arctia caja accidental aberration p. 350 fig., ENGLER Int. ent. Z., Guben 25.

Coscinia cribraria var. *ribbei* n. n. for *nevadensis* Ribbe nec Oberth. p. 71, DRAUDT in SEITZ Suppl. 2.

Daritis sacrificia bred in winter (Argentina) pp. 325–327, BOURQUIN Rev. Soc. ent. argent. 3.

Diaphora mendica pairing p. 58, BULL Proc. Ent. Soc. Lond. 6.

Elysia cingulata f. n. *demaculata* Brazil p. 464 figs., SPITZ Rev. Mus. paul. 17.

Euclemensia see *Euclemensoides*.

Euclemensoides n. n. for *Euclemensia* Dogn. nec Grote p. 739, STRAND Lep. Cat. 26 1922.

Hyphoraia testudinaria characters (with ab. n. *marginata* Belgium) p. 39, DURAND Lambillionea 31.

Ilema arabica sp. n. S. Arabia p. 82, REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Lithosia pallifrons, *lutarella* compared pp. 137-141 figs., HOFFMEYER & KNUDSEN Flora og Fauna 1931.

Ocnogyna loewii f. n. *andresi* Mariout Desert p. 73, DRAUDT in SEITZ Suppl. 2.

Orodemnias püngeleri varr. n. *immaculata*, *flava*, *bicolor* Sajan Mts. p. 77, DRAUDT in SEITZ t.c.—*O. quenselii* breeding and biology in captivity pp. 105-108, 130 etc., HOLLAS et al. Ent. Anz. 11.

Oroncus secreta sp. n. N. Kansu p. 78, DRAUDT in SEITZ Suppl. 2.

Paidia bodenheimeri sp. n. Jerusalem p. 65 fig., DRAUDT in SEITZ t.c.

Paraphrygia rectangulata ♀ p. 148, ROTHSCHILD Novit. zool. 37.

Pericallia matronula historical notes pp. 249-252, KRAUS Ent. Z., Frankfurt a. M. 45.

Pericopis lucifer ♀ p. 463, SPITZ Rev. Mus. paul. 17.

Philea irrorella f. n. *pontica* Italy p. 66, DRAUDT in SEITZ Suppl. 2.

Phryganopteryx inexpectata sp. n. Madagascar p. 148, ROTHSCHILD Novit. zool. 37.

Pseudomicra gen. n. *decolor* sp. n. S. Arabia p. 82 fig., REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Pseudopisara gen. n., *4-punctata* sp. n. Formosa p. 429 [English descriptions], SHIRAKI Spec. Rep. Formosa Agric. Expt. Sta. 8 1913.

Rhodogastria leucoptera subleucoptera protective device p. 83, TALBOT Proc. Ent. Soc. Lond. 5.

Spilosoma mendica variant forms pp. 38, 144, LANGLOIS Bull. Soc. Sci. nat. Rouen (7) 64-65 1930.

NOCTUIDAE (PHALAENIDAE).

An ecologically annotated list of Phalaenidae of Montana, COOK Canad. Ent. 63 pp. 1-9, 25-30.

Revision of Phalaenae of Palaearctic Region, DRAUDT in SEITZ Suppl. 3 pp. 1-22, 1 pl.

Notes on Catocalinae of S. China, MELL Mitt. deuts. ent. Ges. 2 pp. 85-91, 1 pl. 2 figs.

Noctuidae of N. Georgia and Tennessee, RICHARDS Ent. News 42 pp. 247-252, 271-276.

Additions to Tutt's list of British Noctuidae (contd.), TURNER Ent. Rec. 43 sep. pp. 165-212.

Acantholipes singularis sp. n. Khiva p. 61 fig., GERASIMOV Mitt. münchn. ent. Ges. 41.

Acronycta phaedriola Ussuri, *chingana* E. Mongolia spp. n. p. 8; *psi* subsp. n. *batnana* Algeria, *iliensis* Centr. Asia; *incretata* f. n. *belgica* Belgium p. 10; *euphorbiae* ff. n. *xanthomista* locality unknown, *ottomana* Constantinople, *apennina* Abruzzi Mts., *korlana* Korla p. 13, DRAUDT in SEITZ Suppl. 3.—*A. euphorbiae* var. n. *acerbata* Corsica p. 31, SCHAWERDA Z. öst. EntVer. 16.

Agrotis segetum biology 49 pp. figs., ZOLK Tartu Ulikooli Entom.-katsejaama teadaanded no. 10 1930.—*A. lidia* biology pp. 129-130 [in Czech], POKORNÝ Acta Soc. ent. Čech. 27 1930.—*A. lidia* distribution, morphology pp. 71-74, ZUKOWSKY Z. öst. EntVer. 16.—*A. melanura* subsp. n. *albida*; *flavina* subsp. n. *pretiosa* p. 22 Rumania, CARADJA Mem. Sect. Stiint. Acad. Romăna (3) 7 no. 8.—*A. amaliae* sp. n. Spain p. 212 fig., FERNÁNDEZ Eos 7.—*A. acronycta* sp. n. Sokotra I. p. 85 fig., REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.—*A. guadarramensis* sp. n. France p. 157 figs., BOURSIN Int. ent. Z. 25.—*A. fatidica* bionomics pp. 25-36 figs., BERGMANN Int. ent. Z. 25.—*A. multangula* subsp. n. *subdisso-luta* p. 474; *renigera* subsp. n. *caerulescens* p. 475; *vallesiaca* subsp. n. *griseotincta* p. 476 Anatolia figs., WAGNER Int. ent. Z. 24.

Amelia gen. n. (near *Stilbia*) p. 368, *gracilis* sp. n. Asia Minor p. 369, WAGNER op. cit. 25.

Anarta myrtilli ab. n. nordströmi Sweden p. 251 fig., DAHL Ent. Tidskr. 51 1930.

Apamea basilinea subsp. *basistriga* f. n. *alineae* Amur sep. p. 212, TURNER Ent. Rec. 43.—*A. dumerilii* subsp. n. *hirsuta* Asia Minor p. 367, WAGNER Int. ent. Z. 25.—*A. malaisei* sp. n. Kamchatka pp. 65–69 figs., NORDSTRÖM Int. ent. Z. 25.

Aporophylla nigra life-history pp. 65–68, HAGGART Entomologist 64.

Arcilasisa plagiata effect of external factors on development p. 296, JANISCH Z. Morph. Oekol. Tiere 22.

Armada karakumensis sp. n. Askhabad p. 63, GERASIMOV Mitt. münchn. ent. Ges. 41.

Audea arabica sp. n. Aden p. 92, REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Autophila cataphanes var. n. *corsicana* Corsica p. 41, SCHAWERDA Z. öst. EntVer. 16.

Bathytricha phaeosticha sp. n. Queensland p. 339, TURNER Proc. Linn. Soc. N.S.W. 56.

Bryophila perla var. n. *gazeli* Corsica p. 95, LUCAS Bull. Soc. ent. Fr. 1931.—*B. petraea* ff. n. *transversa*, *ramosana* Spain; *lolois* f. n. *pallidior* Palaearctic p. 15; *mitophaea* f. n. *plumbina*; *püngeleri* Turkestan p. 16, *hampsoni* N. Alai, *albiceps* Peter the Great Mts., *protecta* Lagodechi p. 17, *burgeffi* Macedonia p. 19 spp. n.; *galathea* f. n. *aequalis* Italy; *algae* f. n. *lusitanica* Portugal p. 18; *muralis* subsp. n. *amasina* Amasia; *maeonis* f. n. *centralis* Askhabad; *perla* f. n. *dufranei* Belgium p. 19, DRAUDT in SEITZ Suppl. 3.

Calymnia trapezina temperature effects on annual abundance pp. 91–95 figs., CLAYHILLS Mem. Soc. Fauna fenn. 5 1930.—*C. pyralina* ab. n. *fuliginosa* Germany p. 39, BOIS-REYMOND Z. wiss. InsektBiol. 26.

Caradrina argonephra p. 339, *asbolaea* p. 340, spp. n. Australia, TURNER Proc. Linn. Soc. N.S.W. 56.—*C. predotae* sp. n. Spain p. 54 fig., SCHAWERDA Mitt. münchn. ent. Ges. 21.

Carsia paludata imbutata f. n. *brunneofasciata* Harz Mts. p. 401, HANNEMANN Int. ent. Z., Guben 24.

Catocala dilecta var. n. *laetitia* Corsica p. 35, SCHAWERDA Z. öst. EntVer. 16.—*C. pataloidea* p. 89, *kuangtungensis* p. 90, spp. n. China fig., MELL Mitt. deuts. ent. Ges. 2.

Cirphis sicula varr. discussed pp. 211–214, DU DRESNAY Lambillionea 31; r. n. *belgiensis* Belgium p. 134, DERENNE Lambillionea 31.

Cirrhoedia xerampelina ab. n. *lutea* Germany p. 144 figs., BROMBACHER Int. ent. Z. 25.

Clytoscopa gen. n. (nr. *Cerynea*), *iorrhoda* (type) p. 340, *serena* p. 341, spp. n. Queensland, TURNER Proc. Linn. Soc. N.S.W. 56.

Coenobia rufa distribution, biology pp. 97–101 figs., URBACH Stett. ent. Z. 92.

Craniophora pacifica f. n. *kalgana* Chihli Prov. p. 14, DRAUDT in SEITZ Suppl. 3.

Cucullia argentina subsp. n. *grisea* Anatolia p. 482, WAGNER Int. ent. Z. 24.—*C. linosyridis* in Germany p. 153 figs., BROMBACHER Int. ent. Z. 25.

Cycloprora gen. n. (nr. *Cosmodes*), *aridoxa* sp. n. Queensland p. 338, TURNER Proc. Linn. Soc. N.S.W. 56.

Dasygaster atrata sp. n. New South Wales p. 338, TURNER t.c.

Dianthoeia mayeri sp. n. p. 477; *tephroleuca* subsp. n. *asiatica* p. 478; *gueneei* ab. n. *staudingeri* p. 479 Anatolia figs., WAGNER Int. ent. Z. 24.

Dichagyris fimbriola forms p. 39, f. n. *zernyi* Taurus p. 42, CORTI Mitt. schweiz. ent. Ges. 15.

Dinoprora stalidosema sp. n. New South Wales p. 339, TURNER Proc. Linn. Soc. N.S.W. 56.

Dryobota roboris subsp. n. *carbonis* Asia Minor p. 368, WAGNER Int. ent. Z. 25.

Earias insulana f. n. *ferruginosa* Cyrenaica p. 147, TURATI Boll. Soc. ent. ital. 63.

Enargia ulicis var. n. *pseudoregina* Spain p. 214 figs., FERNÁNDEZ EOS 7.

Ephesia nymphaea f. n. *benacensis* Italy p. 93, ROCCI Boll. Soc. ent. ital. 63.—*E. praenax* notes p. 91, MELL Mitt. deuts. ent. Ges. 2.

Episema korsakovi ab. n. *transversa* Asia Minor p. 367, WAGNER Int. ent. Z. 25.

Epizeuxis calvaria ab. n. *plaisanti* Corsica p. 35, SCHAWERDA Z. öst. EntVer. 16.

Esteparia gen. n. (Amphipyrrinae), *agenjoi* sp. n. Spain p. 211 fig., FERNÁNDEZ EOS 7.

Eublemma velox subsp. n. *vinacea* Morocco p. 149, DE JOANNIS Bull. Soc. Sci. nat. Maroc 10.—*E. dichroma* p. 91, *simplex* p. 92, spp. n. Sokotra I., REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Eugraphia bruchi sp. n. Argentina p. 309 fig., BREYER Rev. Soc. ent. argent. 3.

Eulocastra mediana Stgr. distinct from *bipartita* H. S. p. 144, TURATI Boll. Soc. ent. ital. 63.

Euprora crypsichlora sp. n. Queensland p. 341, TURNER Proc. Linn. Soc. N.S.W. 56.

Eutelia albocristata sp. n. Argentina p. 310 fig., BREYER Rev. Soc. ent. argent. 3.—*E. oxylophoides* sp. n. Peking p. 75, DRAESEKE Iris 45.

Eutrophia candidula early stages pp. 261–265, 277–281, CHRÉTIEN Amat. Papillons 5.

Euxoa subdistinguenda var. n. *multisigna* Spain p. 23; *perambulans* Algeria p. 24, *waltharii* Turkestan, *amplexa* Altai p. 25, *corporea* p. 26, *quassa*, *terrestris* S. Russia p. 27, *osthelderi* Turkestan p. 28, *inclusa* Persia p. 29, *sublata* Alexander Mts. p. 31, *achyricola* N. Syria, *latebrosa* Turkestan p. 32 spp. n.; *aquilina* var. n. *rabiosa* Issyk-kul p. 27; *punctifera* n. n. for *squalida* Ev. nec Gn. p. 30, CORTI in SEITZ Suppl. 3.—*E. decora*, *haerkampfii* morphological notes on rr. pp. 98–114 figs., CORTI Mitt. münchen. ent. Ges. 20.—*E. diaphora* sp. n. (with var. n. *conformis*) S. Russia p. 160 figs., BOURSIN Int. ent. Z. 25.—*E. grasilini* varr. *gouini*, *joannisi*, ab. *rufotincta* discussed pp. 199–209, DERENNE Lam-billionea 31.—*E. temera* var. n. *boursini* p. 34; *trux* ab. n. *rubrofusca* p. 35 Corsica, SCHAWERDA Z. öst. EntVer. 16.—*E. crassa* var. n. *modesta* Spain p. 52 fig., SCHAWERDA Mitt. münchen. ent. Ges. 21.

Feltia subgothica oviposition pp. 81–88, BALDUF Proc. Ent. Soc. Wash. 33.

Hadena pisi abnormalities in larvae p. 83, COCKAYNE Proc. Ent. Soc. Lond. 5.—*H. struvei* in Germany p. 153 fig., BROMBACHER Int. ent. Z. 25.

Harmodia caesia var. n. *urumovi* Macedonia p. 57, DRENOWSKI Mitt. bulgar. ent. Ges. Sofia 6.

Heliophobus turatii sp. n. Corsica p. 53, SCHAWERDA Z. öst. EntVer. 16.—*H. hörhammeri* sp. n. Asia Minor p. 367, WAGNER Int. ent. Z. 25.

Heliothis peltigera forced pupae pp. 62–64, KETTLEWELL Ent. Rec. 43; new to Denmark p. 69, GLINTHOLM Flora og Fauna, Copenhagen 1931.—*H. obsoleta* external morphology pp. 697–708 figs., SHU-YEN Lingnan Sci. J. 7.

Helotropia leucostigma abb. n. *nigrobrunneata*, *traegeri* Germany p. 39, BOIS-REYMOND Z. wiss. InsektBiol. 26.

Hydroecia spp. biology, descriptions pp. 450–452, DADD Int. ent. Z., Guben 24.—*H. nictitans* group, reproductive system, distribution, biology, nomenclature, synonymy 44 pp. 345–350, 357–362, 45 pp. 2–7, 18 etc., HEYDEMANN Ent. Z.; distribution pp. 47–54 figs., ALBERS Int. ent. Z. 25.

Hylophila prasinana var. n. *hispanica* Spain p. 220, FERNÁNDEZ EOS 7.

Hylophiloides tsukusensis sp. n. Japan p. 191 [English description], NAGANO Insect Wld., Gifu 22 1918.

Hypena antiqualis subsp. n. *anatolica* Anatolia p. 484, WAGNER Int. ent. Z. 24.

Laphygma exempta biology 12 pp. figs., VAN DER GOOT Korte Meded. Inst. Plantenziekt. no. 17.—*L. exempta*, *exigua* biology pp. 209–210, TAYLOR Bull. Ent. Res. 22.

Leucania rosgreeni sp. n. Sokotra I. p. 87, REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.—*L. favicolor*, *littoralis* variation p. 445 figs., HEYDEMANN Int. ent. Z. 24.—*L. straminea* method of collecting p. 201, LENZ Int. ent. Z. 25.—*L. favicolor* morphology biology 6 pp. 115–125; *vitellina* morphology, life-history 7 pp. 40–52, CURTIS Trans. Ent. Soc. S. Engl.

Lithocampa millierei subsp. n. *hörhammeri* Anatolia p. 481, WAGNER Int. ent. Z. 24.

Leptose from p. 285

Luceria virens ab. n. *rubrociliata* Spain p. 56, SCHAWERDA Mitt. münchn. ent. Ges. 21.

Macronoctua onusta natural enemies pp. 40-44, BREAKEY Ann. Ent. Soc. Amer. 24.

Mamestra drenowskii further description p. 53 fig., DRENOWSKI Mitt. bulgar. ent. Ges. Sofia 6.—*M. leucophaea bombycina* ab. n. *nigra* Anatolia p. 476, WAGNER Int. ent. Z. 24.

Margelana flavidior sp. n. Asia Minor p. 368, WAGNER op. cit. 25.

Melanchra tetrachroa, *pelanodes* p. 92, *coctilis* p. 93, spp. n. New Zealand, MEYRICK Trans. Proc. N.Z. Inst. 62.

Metachrostis plagifera sp. n. Sokotra I. p. 91, REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Miana captiuncula distribution in Europe pp. 2-6, WARNECKE Z. öst. EntVer. 16.

Neosema gen. n. (Agrotinae), *sesamoides* sp. n. Sokotra p. 85 fig., REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Nonagria neurica ab. n. *nigra* England p. 106, WIGHTMAN Ent. Rec. 43.—*N. geminipuncta* biology pp. 4-9 fig., BROMBACHER Int. ent. Z. 25.

Noshimeia gen. n. (nr. *Sphragifera*), *fulgularis* sp. n. Japan p. 210 fig., MATSUMURA Ins. mats. 5.

Oederemia gracilis sp. n. Issyk-kul p. 21, DRAUDT in SEITZ Suppl. 3.

Oligia fasciuncula subsp. n. *albiluna* Minussinsk p. 76, KOZHANTSCHIKOV Jahrb. Martj. Staatsmus. Minussinsk 6 (1928) 1929.

Oxylos citronellus larva, pupa p. 18 figs., COMSTOCK Bull. S. Calif. Acad. Sci. 30.

Palluperina spp. described pp. 125-132; *sohn-retheli* sp. n. Abruzzia p. 128 figs., DRAUDT Ent. Rdsch. 48.—*P. nickerlii* notes on German fls. pp. 361-366 figs., BATH Int. ent. Z., Guben 25.

Panolis flammea ecology, distribution pp. 475-562 figs., ZWÖLFER Z. angew. Ent. 17; bionomics pp. 563-586 figs., BERWIG Z. angew. Ent. 17; biology pp. 1-56 figs., MEYER Z. angew. Ent. 18; notes p. 309, CATHERINE Amat. Papillons 5.

Papaipema spp. of Pacific Coast pp. 183-187 figs., BIRD Canad. Ent. 63.—*P. nebris* biology pp. 291-351 figs., DECKER Res. Bull. Iowa Agric. Expt. Sta., Ent. Sect. no. 143.

Paraegle tessellata sp. n. Transcaucasia p. 62, GERASIMOV Mitt. münchn. ent. Ges. 41. /2

Parascotia fuliginaria f. n. *magna* Hungary p. 241 fig., DIÓSZEGHY Verh. siebenbürg. Ver. Naturw. 79-80 1930.

Pericyma rosacea sp. n. S. Arabia p. 90, REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Phragmatiphila truncata morphology, biology pp. 141-144 figs., JARVIS Qd. Agric. J., Brisbane 35.

Phytometra (*Plusia*) notes on Netherlands spp. pp. 214-217, WIJNBELT Ent. Ber. 8.—*P. gamma* ab. n. *bipartita* Sweden p. 256 fig. [in Swedish], ORSTADIUS Ent. Tidskr. 51 1930.—*P. pulchrina* ab. n. *orbata* Sweden p. 252 fig., DAHL Ent. Tidskr. 51 1930.—*P. accentifera* f. n. *atra* Italy p. 95, ROCCI Boll. Soc. ent. ital. 63.

Pilipectus chinensis sp. n. China p. 77, DRAESEKE Iris 45.

Plusia see *Phytometra*.

Polia serratilinea var. n. *kowatschevi* Macedonia p. 56, DRENOWSKI Mitt. bulgar. ent. Ges. Sofia 6.—*P. chrysographa* sp. n. Asia Minor p. 368, WAGNER Int. ent. Z. 25.—*P. dubia* var. *lutescens* ab. n. *reisseri* Spain p. 53 fig., SCHAWERDA Mitt. münchn. ent. Ges. 21.

Polyphaenis sericata ff. n. *melanochrata*, *xanthosuffusa* Spain p. 214 figs., FERNÁNDEZ EOS 7.—*P. sericata* notes on German forms p. 122, WARNECKE Ent. Z. 45.

Rhyacia festiva ab. n. *fibulata* Sweden p. 251 fig., DAHL Ent. Tidskr. 51 1930.—*R. erythrina* var. n. *arcana* p. 32, *corsica* p. 33 Corsica, SCHAWERDA Z. öst. EntVer. 16.

Sidemina glaisi sp. n. Algeria p. 95, LUCAS Bull. Soc. ent. Fr. 1931.

Sideridis conigera ab. n. *mezeyi* Carpathians p. 14, DIÓSZEGHY Pub. Muz. jud. Hunedoara 27 1930 no. 2.

Taeniocampa stabilis ab. n. *violacea* Rumania p. 45, CARADJA Mem. Sect. Stiint. Acad. Romăna (3) 7 no. 8.

Toxocampa craccae var. n. *caliginosa* Corsica p. 54, SCHAWERDA Z. öst. Ent. Ver. 16.—*T. stenoptera* sp. n. Sokotra I. p. 93, REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Valeria oleagina distribution Centr. Europe, especially Pomerania pp. 259–265 map, WARNECKE Stett. ent. Z. 92.

Xanthia gilvago new to Estonia p. 52, KUSKOW Beitr. Kunde Estlands 15 1929.

Xylina furcifera early stages p. 202, v. BRUNN Int. ent. Z., Guben 25.

Zanclognatha tristriga sp. n. Minussinsk p. 79, KOZHANTSCHIKOV Jahrb. Martj. Staatsmus. Minussinsk 6 (1928) 1929.

LYMANTRIIDAE (LIPARIDAE).

Lymantriidae from Br. Somaliland, COLLENETTE Ann. Mag. N.H. (10) 7 pp. 286–289.

Aclonophlebia poecilanthes sp. n. Kivu p. 363 fig., COLLENETTE Trans. Ent. Soc. Lond. 79.

Antiphella atrinotata see *Pirgula*.

Aroa discalis Wlk. (= *Euproctis xanthypopterus* Wichg.) p. 511, COLLENETTE Ann. Mag. N.H. (10) 7.—*A. terminalis* see *Euproctis*.

Artaxa tessellata see *Euproctilla*; *apicipuncta* see *Euproctis*.

Barlowia pyrilampes sp. n. N.W. Rhodesia p. 362 fig., COLLENETTE Trans. Ent. Soc. Lond. 79.

Bazisa phaeophlebia ♀ p. 341 fig., COLLENETTE t.c.

Calliteara prasina see *Dasychira*.

Caviria buruana sp. n. Buru p. 559, HOLLAND Nov. zool. 7 1900.

Creagra batesi see *Leucoperina kahli*.

Cropera pallida see *Euproctis*.

Crorema submaculata Kivu p. 343, nigropunctata S.W. Africa, spp. n.; *crocipes* ♂ p. 344 figs., COLLENETTE Trans. Ent. Soc. Lond. 79.—*C. (Olapa) fulvinotata* Btlr. (= *euproctoides* Her.); *mentiens* Wlk. (= *Laelia albida* Hmps.) p. 510, COLLENETTE Ann. Mag. N.H. (10) 7.

Dactylorhynchides limacodiformis see *Ceratonema rufibasale* (Limacodidae).

Dasyocampa ianthina see *Numenes flammeola*.

Dasychira thermoplaga Hmps. (= *poecila* Her.); (*Ilema*) *gonophora* Holl. (= *prospera* Her.); *batooides* Plötz. (= *Oecura whitei* Druce); *galactina* Mab. (= *lemuria* Her.); (*Calliteara*) *prasina* Btlr. (= *malgassica* Her.); *phaeosericea* Mab. (= *ornata* Oberth., *Euproctis variegata* Kenr., *Nygma kenricki* Swinh.); *proleprota* Hmps. (= *greeni* Janse); *pyrosoma* Hmps. (= *ursina* Her.); (*Heteronygmia*) *arctioides* Holl. (= *postalba* Swinh.) p. 512, COLLENETTE Ann. Mag. N.H. (10) 7.—*D. aethalodes* Nyasaland, N.W. Rhodesia p. 353, *elaechroa* p. 354, *aena* p. 356, *dollmani* p. 357 N.W. Rhodesia, *triselenia* p. 354, *crecadia* Kivu p. 356, *chalcocrata* Madagascar p. 355, *astraphaea*, *ilesia* p. 358 spp. n.; *georgiana* subsp. n. incristata West Africa p. 355 figs., COLLENETTE Trans. Ent. Soc. Lond. 79.—*D. hypersceles* p. 180, *brunneipicta* p. 181, spp. n. N. Celebes, COLLENETTE Zool. Meded. 14.—*D. chelonia* see *Numenes praestans*; *apateloides*, *cana* see *Stauropus* (Notodontidae); *ugandensis* see *Pseudarctia nivea*; *perelegans* see *Heptaptosis*.

Eloria remota Wlk. (= *intacta* Wlk. 1856 (not 1855)) p. 511, COLLENETTE Ann. Mag. N.H. (10) 7.

Euproctidion rhodoides N.W. Rhodesia p. 359, *rhodobaphes* (also Nyasaland) p. 360, *conradti* Kamerun, *striata* E. Africa p. 361, spp. n. figs., COLLENETTE Trans. Ent. Soc. Lond. 79.

Euproctilla (Artaxa) tessellata Holl. (= *latifascia* Her.) p. 511, COLLENETTE Ann. Mag. N.H. (10) 7.

Euproctis (Cropera) pallida Kby. (= *dentata* Her.); (*Aroa*) *terminalis* Wlk. (= *mesozona* Hmps.); (*Orgyia*) *chrysophaea* Wlk. (= *rorida* Her.); *molundwana* Auriv. (= *contemptor* Her.); (*Artaxa*) *apicipuncta* Holl. (= *n'dalla* B.-B.); *fumitincta* Hmps. (= *suspensa* Her.); *sexmacula* Swinh. (= *neola neolella* Strd.); *panselena* n. n. for *rotunda* B.-B. nec Holl. p. 511, COLLENETTE t.c.—*E. ouria* p. 347, *turificator* p. 348 Kivu, *hargreavesi* Uganda, *ceramozona* S. Nigeria p. 349, *jefferyi* Kenya p. 350, spp. n. figs., COLLENETTE Trans. Ent. Soc. Lond. 79.—*E. embammachroa* sp. n. N. Celebes p. 179, COLLENETTE Zool. Meded. 14.—*E. epaxia* further description; *empreps* p. 326, *ochroneura* p. 327 spp. n. Queensland, TURNER Proc. Linn. Soc.

N.S.W. 56.—*E. unipunctapex* sp. n. Formosa p. 537 [English description], SHIRAKI Spec. Rep. Formosa Agric. Expt. Sta. 8 1913.—*E. isis* see *Porthesia dewitzi*; *xanthypopteros* see *Aroa discalis*; *nepheloptera* see *Laelia marginepunctata*; *atrodisca* see *Adrallia bipunctata* (Notodontidae); *variegata* see *Dasychira phaeosericea*.

Heptaptosis (*Dasychira*) *perelegans* Auriv. (= *joiceyi* Talb.) p. 512, COLLENETTE Ann. Mag. N.H. (10) 7.

Heteronygmia arctioides see *Dasychira*.

Ilema gonophora see *Dasychira*.

Imaus niveus B.-B. (= *aroa* B.-B.) p. 512, COLLENETTE Ann. Mag. N.H. (10) 7.

Lacipa tau sp. n. Tanganyika p. 347 fig., COLLENETTE Trans. Ent. Soc. Lond. 79.

Laelia eutricha sp. n. Kenya, Uganda p. 352 fig., COLLENETTE t.c.—*L. furva* sp. n. Queensland p. 328, TURNER Proc. Linn. Soc. N.S.W. 56.—*L. somalica* sp. n. Br. Somaliland p. 288; *marginepunctata* B.-B. (= *Euproctis nepheloptera* Hmps.) ; *rufolavaria* Her. (= *corallina* Collnt.) p. 512, COLLENETTE Ann. Mag. N.H. (10) 7.—*L. albida* see *Crorema mentiens*; *diaphanella* see *Leptepilepta*.

Leptepilepta (*Laelia*) *diaphanella* Mab. (= *caudata* Collnt.) p. 510, COLLENETTE Ann. Mag. N.H. (10) 7.

Leucoma fenestrata Hmps. (= *thyridoptera* Hmps.) ; (*Redoa*) *micacea* Wlk. (= *pulverulenta* Snell.) p. 510, COLLENETTE t.c.—*L. brontonepha* sp. n. Madagascar p. 342 fig., COLLENETTE Trans. Ent. Soc. Lond. 79.

Leucoperina kahli Holl. (= *Creagra batesi* B.-B.) p. 511, COLLENETTE Ann. Mag. N.H. (10) 7.

Liparis melanocera see *Ogoa*; *barica* see *Lymantria*.

Lymantria finitorum sp. n. Br. Somaliland p. 289; *gondona* Swinh. (= *melete* Fawcett); (*Liparis*) *barica* Mab. (= *uxor* Saalm., *fumosa* Saalm., *Pyramocera fuliginea* Butl.); *nebulosa* Wilem. (= *kosemponis* Strd.) p. 512, COLLENETTE Ann. Mag. N.H. (10) 7.—*L. dispar* intersexuality pp. 125–142, GOLDSCHMIDT Quart. Rev. Biol. 6; ♀ genitalia pp. 93–137, 44 figs., DU BOIS Arch. EntwMech. Org. 124.

Marbla lutulenta Kamerun, *coelebs* Kivu, Uganda, spp. n. p. 352 figs., COLLENETTE Trans. Ent. Soc. Lond. 79.

Naroma nigrolunata sp. n. Kamerun p. 342 fig., COLLENETTE t.c.

Neomardara divergens sp. n. N.W. Rhodesia p. 350 fig., COLLENETTE t.c.

Numenes flammeola Dist. (= *Dasy-campa ianthina* Janse); *praestans* Saalm. (= *Dasychira chelonina* Le Cerf) p. 511, COLLENETTE Ann. Mag. N.H. (10) 7.

Nygmia piperita early stages pp. 125–128 [in Japanese] figs., KAWADA Kontyû, Tokyo 5.—*N. kenricki* see *Dasychira phaeosericea*.

Oecura whitei see *Dasychira batoides*.

Ogoa simplex Wlk. (= *Pirga lutea* Grünb., *P. perfasciata* Wichg.) type ♀ not ♂; (*Liparis*) *melanocera* Mab. (= *malagassica* Roths.) p. 510, COLLENETTE Ann. Mag. N.H. (10) 7.

Olapa makala B.B. (= *Pseudogenusa opalescens* Rebel Geometridae) p. 510, COLLENETTE t.c.—*O. ituri* Belgian Congo, *leptomita* Uganda, spp. n. p. 346 figs., COLLENETTE Trans. Ent. Soc. Lond. 79.—*O. fulvinotata* see *Crorema*.

Orgyia caliacrae sp. n. Rumania p. 19, CARADJA Mem. Sect. Stiint. Acad. Româna (3) 7 no. 8.—*O. chrysophaea* see *Euproctis*; *aurantia* see *Hypochrosis* (Geometridae).

Pirga cryptogena sp. n. Uganda p. 351 fig., COLLENETTE Trans. Ent. Soc. Lond. 79.—*P. lutea*, *perfasciata* see *Ogoa simplex*.

Pirgula (*Antiphella*) *atrinotata* Btlr. (= *decempunctata* Tessim.) p. 511, COLLENETTE Ann. Mag. N.H. (10) 7.

Porthesia formosana p. 534 [in English], *taiwana* p. 511 [in Japanese], spp. n. Formosa, SHIRAKI Spec. Rep. Formosa Agric. Expt. Sta. 8 1913.—*P. melanorrhanta* sp. n. Queensland p. 325, TURNER Proc. Linn. Soc. N.S.W. 56.—*P. argyrochila* sp. n. N. Celebes p. 179, COLLENETTE Zool. Meded. 14.—*P. dewitzi* Grünb. (= *Euproctis isis* B.-B.) p. 511, COLLENETTE Ann. Mag. N.H. (10) 7.

Pseudarctia nivea B.-B. (= *Dasychira ugandensis* Her.) p. 510, COLLENETTE t.c.

Pyramocera fuliginea see *Lymantria barica*.

Redoa mayotta Mayotte and Comoro Is., *panthoma* Madagascar, *kenya* Kenya spp. n. p. 345 figs., COLLENETTE Trans. Ent. Soc. Lond. 79.—*R. micacea* see *Leucoma*.

Rhyptoses gen. n., *atima* sp. n. Java p. 182, COLLENETTE Zool. Meded. 14.

Stilpnotia platyrhabda sp. n. Kamerun p. 341 fig., COLLENETTE Trans. Ent. Soc. Lond. 79.

ANTHELIDAE.

Pterolocera isogama sp. n. W. Australia p. 328, TURNER Proc. Linn. Soc. N.S.W. 56.

SPHINGIDAE.

Revision of American Sphingidae, DRAUDT in SEITZ 6 pp. 841–896, 22 pls.

Sphingidae from the Bolivian Chaco, VON ROSEN Mitt. münchn. ent. Ges. 21 pp. 15–16.

Morphological and biological notes on Indian hawkmoths, SCOTT J. Bombay N.H. Soc. 35 pp. 362–381, 3 pls. 9 figs.

Acherontia soyejimai sp. n. p. 27 fig., MATSUMURA Ill. Thous. Ins. Japan Suppl. 1 1908.—*A. lachesis* ab. n. *radiata* Celebes p. 278 fig., NIEPELT Int. ent. Z. 25.

Agrius convolvuli migration pp. 31–35, DEAN Ent. Mon. Mag. 67.

Aleuron neglectum subsp. n. *paraguayana* Paraguay p. 79, CLARK Proc. New Engl. Zool. Cl. 12.

Basiothia socotrensensis Rbl. from *Metopsilus* p. 80 fig., REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Cechenena lineosa subsp. n. *pundjabensis* Punjab p. 363 44; *l. scotti* Roths. (= *l. pundjabensis* Gehl.) p. 121 45 fig., GEHLEN Ent. Z.

Celerio livornica morphology, biology pp. 175–181, DURAND Lambillionea 31.—*C. euphorbiae* variation pp. 101–104, WLADASCH Ent. Jahrb., Leipzig 41 1932 [1931]; ab. n. *roseata* no locality p. 6, BANDERMANN Ent. Anz. 11; ff. n. *cleopatra*, *multicolor* Silesia p. 243, WLADASCH Ent. Anz. 11.—*C. hybr. livorneuphorbiae* biology p. 252 fig., PFAFF Ent. Z., Frankfurt a. M. 45.

Chlaenogramma undata undata in Argentine not in Costa Rica p. 83, CLARK Proc. New Engl. Zool. Cl. 12.

Coelonia fulvinotata in Tropical Africa p. 142 fig., SCHULTZE Iris 45.

Cypa spp. morphology pp. 235–240, *pallens* subsp. n. *enodis* Assam p. 240 figs., JORDAN Novit. zool. 36.

Daphnusa ocellaris ailanti Oberth. (= *o. splendens* Gehl.) p. 364, GEHLEN Ent. Z. 44.

Dilina tiliae abnormality p. 213, LENZ Int. ent. Z. 25.

Eumorpha porcellus biology pp. 5–8 [in Russian with English summary], RUZSKY Wiss. Ber. biol. Fak. Tomsk Staats Univ. 1 pp. 5–8.

Hippotion obanawae sp. n. p. 37 fig., MATSUMURA Thous. Ins. Japan Suppl. 1 1908.—*H. exclamationis austrinum* larva p. 41, JORDAN Proc. Ent. Soc. Lond. 6.

Hyloicus pinastri races figs. p. 134, JORDAN op. cit. 5; subspp. n. *areustus* Amur p. 244, *cenisius*, *medialis* p. 246, *massiliensis* France, *maurorum* Pyrenées p. 248; *pinastri pinastri* measurements of males p. 249 figs., JORDAN Novit. zool. 36.

Madoryx phito subsp. n. *dentatus* Mexico p. 203, GEHLEN Ent. Z. 45.

Marumba quercus breeding and biology in captivity pp. 215–217, 249–251, SCHEFFER et al. Ent. Anz. 11.

Metopsilus socotrensensis sp. n. Sokotra I. p. 360, REBEL Anz. Akad. Wiss. Wien 36 1899.—See *Basiothia*.

Mimas tiliae ab. n. *griseothoracea* Belgium p. 174, CABEAU Lambillionea 31; ab. n. *vitrina* no locality p. 204, GEHLEN Ent. Z. 45.

Neogene pictus sp. n. Paraguay p. 78, CLARK Proc. New Engl. Zool. Cl. 12.

Panacra hollandiae sp. n. Dutch New Guinea p. 80, CLARK t.c.

Phryxus livornica larval notes pp. 142–144, WIGHTMAN Ent. Rec. 43.

Polyptychus trilineatus subsp. n. *javanicus* Java p. 362 fig., GEHLEN Ent. Z. 44.

Protambulyx strigilis subsp. n. *portoricensis* Brazil p. 79, CLARK Proc. New Eng. Zool. Cl. 12.

Protoparce leucophila sp. n. Mexico p. 201 figs., GEHLEN Ent. Z. 45.

Rethera komarovi new to Europe, history, biology pp. 121-138 figs., BURESCH & TULESCHKOW Mitt. naturw. Inst. Sofia 4.

Rhagstis binoculata sp. n. Japan p. 39 fig., MATSUMURA Thous. Ins. Japan Suppl. 1 1908.

Smerinthulus brooksi genitalia p. 241 figs., JORDAN Novit. zool. 36.

Smerinthus populi second generation pp. 241-243, LEMPKE Ent. Ber. 8; POLAK t.c. pp. 266-267.—*S. kindermanni* subsp. n. *meridionalis* N. India p. 202 figs., GEHLEN Ent. Z. 45.

Sphinx gordius f. n. *coxei* Labrador p. 319 fig., CADBURY Trans. Amer. Ent. Soc. 57; r. n. *campestris* Canada p. 73, McDUNNOUGH Canad. Ent. 63.—*S. luscitiosa* subsp. n. *borealis* Ontario p. 77, CLARK Proc. New Engl. Zool. Cl. 12.—*S. ligustri* food-plants pp. 97-100, WARNECKE Ent. Jahrb. 41.—See *Agrius*.

Temnora heringi sp. n. Tanganyika p. 203 figs., GEHLEN Ent. Z. 45.

Xylophanes kaempferi Paraguay p. 81, *katharinae* Mexico p. 82, spp. n., CLARK Proc. New Engl. Zool. Cl. 12.—*X. caissa* sp. n. Bolivia 44 p. 362 fig., corrected to *nabuchodonosor* f. n. *caissa* 45 p. 204; *thyelia salvina* described p. 119 figs., GEHLEN Ent. Z.

THYATIRIDAE (CYMATOPHORIDAE).

Catalogue of the known Cymatophoridae, DALLA TORRE Ent. Jahrb. 1919 pp. 100-106.

Catalogue of Indo-Australian Cymatophoridae, GAEDE in SEITZ 10 pp. 657-663.

Cymatophora medialis, *latipennis* p. 76, *fujicana* p. 81, spp. n. Japan figs., MATSUMURA Thous. Ins. Japan Suppl. 1 1908.

Cymotrix gen. n., *decora* (type) (with f. n. *indecora*), *submarginalis* spp. n. New Guinea p. 659, GAEDE in SEITZ 10.

Gaurena florina Buru, *trimacula*, *unimacula*, *bifasciata* New Guinea, *albifasciata* Tibet spp. n.; *grisescens* f. n. *nigrescens* Sikkim p. 660, GAEDE in SEITZ 10.

Habrosyne roseola sp. n. Japan p. 79 fig., MATSUMURA Thous. Ins. Japan Suppl. 1 1908.

Palimpsestis orbicularis f. n. *sumatrensis* Sumatra; *griseocostata* sp. n. Burma p. 661, GAEDE in SEITZ 10.

Plusinia gen. n., *aurea* sp. n. Burma p. 662, GAEDE in SEITZ 10.

Thyatira labiata p. 658, *angulifera* Burma, *geminata* Sumatra p. 659, spp. n., GAEDE in SEITZ 10.

EUPTEROTIDAE.

Eupterote formosana sp. n. Formosa p. 55 figs., MATSUMURA Thous. Ins. Japan Suppl. 1 1908.

Preptothauma gen. n. p. 121, *oxydiata* sp. n. Colombia p. 122 fig., DRAUDT Ent. Rdsch., Stuttgart 48.

NOTODONTIDAE.

Adrallia bipunctata Wlk. (= *Euprocitis atrodisca* Her.) p. 512, COLLENETTE Ann. Mag. N.H. (10) 7.

Antimima corystes sp. n. W. Australia p. 330, TURNER Proc. Linn. Soc. N.S.W. 56.

Cerura sanguinicollis sp. n. French W. Africa p. 143 fig., SCHULTZE Iris 45.

Destolmia atalopa sp. n. W. Australia p. 329, TURNER Proc. Linn. Soc. N.S.W. 56.

Diceratucha from *Oenochromidae* (Geometridae) p. 332, TURNER t.c.

Drymonia discoidalis sp. n. Japan p. 72 fig., MATSUMURA Thous. Ins. Japan Suppl. 1 1908.

Gallaba diplocycla, *basinipha*, *eusciera* p. 331, *dysthyma* spp. n. Australia; *duplicata* Wlk. re-description p. 332, TURNER Proc. Linn. Soc. N.S.W. 56.

Notodonta ishidae p. 56, *nitobei* p. 59, spp. n. Japan figs., MATSUMURA Thous. Ins. Japan Suppl. 1 1908.

Phalera yunnanensis p. 378, *albizziae* spp. n.; *flavescens* subsp. n. *kuangtungensis* p. 379, *alticola* p. 380 China, MELL Lingnan Sci. J. 9.

Pheosia octofasciata sp. n. Japan p. 54 fig., MATSUMURA Thous. Ins. Japan Suppl. 1 1908.

Pheraspis epiocosma sp. n. Queensland p. 329, TURNER Proc. Linn. Soc. N.S.W. 56.

Scytrophanes amblyiodes sp. n. Tasmania p. 330, TURNER t.c.

Spatalia okamotoi sp. n. Japan p. 82 fig., MATSUMURA Thous. Ins. Japan Suppl. 1 1908.

Stauropus apateloides Holl., *cana* Wichg. from *Dasychira* (Lymantriidae) p. 512, COLLENETTE Ann. Mag. N.H. (10) 7.

Syntypistis arisemna sp. n. Queensland p. 328, TURNER Proc. Linn. Soc. N.S.W. 56.

Uropyia hammamelis [sic] sp. n. China p. 377, MELL Lingnan Sci. J. 9.

Zangra ziozankeana sp. n. Japan p. 65 fig., MATSUMURA Thous. Ins. Japan Suppl. 1 1908.

GEOMETRIDAE (OENOCROMIDAE).

Corrections and additions to Geometrids of Minussinsk, DJAKONOV Jahrb. Martj. Staatsmus. Minussinsk 5 1927 pp. 53-58.

Geometridae (part) of S. Bavaria, OSTHELDER Mitt. münchn. ent. Ges. 21 suppl. pp. 469-537, 2 pls.

Geometridae from the Bolivian Chaco, PROUT Mitt. münchn. ent. Ges. 21 pp. 17-26.

Geometridae collected in Mentawai Is., PROUT Novit. zool. 37 pp. 1-17.

Catalogue of Geometridae of Africa, PROUT in SEITZ 16 pp. 41-48, 2 pls.

A list of Geometridae collected by C. L. Collenette in Br. Somaliland, PROUT Ann. Mag. N.H. (10) 7 pp. 262-272.

Biology of various Geometrids, SCHNEIDER Ent. Anz. 11 pp. 337-339.

Morphological notes on some N. African Geometridae, WEHRLI Int. ent. Z. 24 pp. 425-431, 438-444, 2 pls.

Abraxas permutans p. 97, *polysticta*, *perchaotica* p. 98, *auchmodes*, *epipercna* p. 99, *hemerophiloides* p. 100, *conialeuca*, *asemographa* p. 101, *celidota* p. 102, *elaiodes*, *proicteriodes* p. 104, *rhusiocirra* p. 105, *cosmia* p. 106, *microtata* p. 107, spp. n. China, WEHRLI Mitt. deuts. ent. Ges. 2.—*A. discoparallela* sp. n. W. China p. 111, WEHRLI Ent. Z. 45.

Acanthocampa okamotoi sp. n. Japan p. 106 figs., MATSUMURA Ill. Thous. Ins. Japan Suppl. 2 1909.

Acasis muscigera ♂ p. 81, STERNECK Iris 45.

Acidalia key to spp. of Bornholm I., Denmark p. 133, HOFFMEYER & KNUDSEN Flora og Fauna 1931.—*A. caricaria* ab. n. *negrocingulata* Tyrol p. 46, HARTIG End. Rdsch. 41 1924; also in Studi trentini (2) 7 1926 p. 114.—*A. orientalis* Alph. good sp. pp. 235-238, 5 figs., OBRAZTSOV Int. ent. Z., Guben 25.—*A. immutata* ab. n. *coarctata* Germany p. 179; *filicata* ab. n. *angelata* S. Tyrol p. 180 figs., SCHULTZ Int. ent. Z. 25.—*A. coenosaria* subsp. n. *chinensis* China p. 79, STERNECK Iris 45.—*A. vinnularia* p. 97, *rhodinaria* p. 98, spp. n. Sokotra I., REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.—*A. delicata* p. 10, *oliveata* p. 11 Canada, *laredoata* p. 16, *marceata* p. 19, *albescens* p. 20, *tawneata* p. 23 U.S.A., spp. n., CASSINO Lepidopterist 5.

Acidaliastis curvilinea f. n. *mixta* Transvaal p. 48, PROUT in SEITZ 16.

Acolutha bicristipennis sp. n. S. Andamans p. 165, PROUT Novit. zool. 36.

Acrodontis gen. n. for *Ennomos aenigma* Prt.; subsp. n. *nikkonis* Japan pp. 16, 41; (*E.*) *fumosa* Prt. (= *a. nikkonis* Wehrli) p. 25, WEHRLI Ent. Rdsch. 48.

Actenochroma pullicosta sp. n. Mindanao p. 152, PROUT Novit. zool. 36.

Adalbertia n. n. for *Seitzia* Wehrli p. 338, WEHRLI Ent. Z. 44.

Aetheometra gen. n., *iconoclasia* sp. n. Br. Somaliland p. 271, PROUT Ann. Mag. N.H. (10) 7.

Agathia klossi sp. n. Mentawai Is. p. 5, PROUT Novit. zool. 37.

Amphidasis jesoensis sp. n. Japan p. 130 fig., MATSUMURA Thous. Ins. Japan Suppl. 2 1909.—*A. betularia* melanism pp. 235-240 figs., LEMCKE J. Genet. 24.—*A. betularia carbonaria* biology p. 410, BANDERMANN Int. ent. Z. 24.

Anaitis plagiata new to Estonia p. 52, KUSKOW Beitr. Kunde Estlands 15 1929.—*A. obsitaria* subsp. n. *evanescens*, *anatolica* Syria p. 43, WEHRLI Mitt. münchn. ent. Ges. 21.—*A. efformata* ff. n. *tangens*, *fasciata* Germany p. 401, HANNEMANN Int. ent. Z., Guben 24.

Androzeugma tenuis Warr. (= *hapala* Prout) p. 46, PROUT in SEITZ 16.

Anisodes nesidica sp. n. Mentawai Is. p. 7, PROUT Novit. zool. 37.

Anisozygia valescens sp. n. Dutch New Guinea p. 152, PROUT op. cit. 36.

Anthometra plumularia abb. n. *unicolorana*, *fusca* Belgium p. 185, DUFRANE Lambilliona 31.

Aphilopota semidentata Madagascar p. 169, *perscotia* Cape Colony p. 170, spp. n., PROUT Novit. zool. 36.

Apithecia viridata subsp. n. *wilemani* Formosa p. 22, PROUT op. cit. 37.

Apotheta gen. n. (Oenochrominae) p. 334, *tanymita* sp. n. W. Australia p. 335, TURNER Proc. Linn. Soc. N.S.W. 56.

Arctoscelia celator sp. n. Luzon p. 29, PROUT Novit. zool. 37.

Asaphodes amblyterma sp. n. New Zealand p. 92, MEYRICK Trans. Proc. N.Z. Inst. 62.

Aspilates revocaria ab. n. *fasciata* Asia Minor p. 370, WAGNER Int. ent. Z. 25.

Asthenes anseraria new to Belgium p. 158, DERENNE Lambilliona 31.

Atopophysa indistincta subspp. n. *sinotibetaria*, *kunkalashana*, *micans* p. 26, *orphnina* p. 27 China, WEHRLE N. Beitr. syst. Insektenk. 5.

Automolodes goldiei subsp. n. *imparifascia* New Guinea p. 169, PROUT Novit. zool. 36.

Baynia dismutata from *Rhopalista* p. 24, PROUT Mitt. münchn. ent. Ges. 21.

Binareolaria subgen. n. see *Naxidia*.

Biston strataris ab. n. *conjunctarius* Austria p. (16), GALVAGNI Verh. zool.-bot. Ges. Wien 81.

Boarmia jacobiaris p. 218, *isabellae* p. 219 spp. n.; *occitanaria* f. n. *bejaranaria* p. 220 Spain figs., FERNÁNDEZ Eos 7.—*B. ribeata* ab. n. *aurichalcea* Hungary p. 267, DIÓSZEGHY Verh. siebenbürg. Ver. Naturw. 79-80 1930.—*B. bituminaria* subsp. n. *amurensis* Minussinsk p. 24, WEHRLE Jahrb. Martj. Staatsmus. Minussinsk 6 (1928) 1929.—*B. syntropha* sp. n. Br. Somaliland p. 269, PROUT Ann. Mag. N.H. (10) 7.—*B. rhomboidaria* subsp. n. *syritaurica* Syria p. 44; *syribanoni* sp. n. Lebanon p. 46, WEHRLE Mitt. münchn. ent. Ges. 21.—*B. rhomboidaria* var. n. *corsicaria* Corsica p. 42, SCHAWERDA Z. öst. EntVer. 16.

Bryoptera fulvisquamosa sp. n. Peru p. 177, PROUT Novit. zool. 36.

Bupalus piniarius parasites pp. 601-630 figs., STEINER Z. angew. Ent. 17; biology pp. 73-93 fig., SCHWERTFEGGER Z. Forst- u. Jagdwesen 62 1930.

Calcaritis megacentron sp. n. China p. 29, WEHRLE N. Beitr. syst. Insektenk. 5.

Calluga lophoceras sp. n. S. India p. 26, PROUT Novit. zool. 37.

Calothyranis responsaria subsp. n. *aganopsis* Malabar p. 18, PROUT t.c.

Carige bicuspis sp. n. Sumatra p. 27, PROUT t.c.

Chesias leuconeura sp. n. Angora p. 554, PROUT Ann. Mag. N.H. (10) 8.

Chiasmia clathrata ab. n. *aequifasciata* Belgium p. 22, JAQUEMIN Lambilliona 31; abb. n. *opipara*, *declathrata* Sweden p. 252 figs., DAHL Ent. Tidskr. 51 1930.

Chloeres prasochroa sp. n. N. Queensland p. 337, TURNER Proc. Linn. Soc. N.S.W. 56.

Chloroclystis plinthochyta p. 335, *celidota*, *stenophrica* p. 336, spp. n. Queensland, TURNER t.c.—*C. tornospila* sp. n. New Zealand p. 94, MEYRICK Trans. Proc. N.Z. Inst. 62.

Chrysocraspeda allegadia sp. n. Luzon p. 155, PROUT Novit. zool. 36.

Cidaria infidaria ab. n. *mallászi* Carpathians p. 14, DIÓSZEGHY Pub. Muz. jud. Hunedoara 27 1930 no. 2.—*C. coerulea* larva causing galls on *Salix* p. 257 [in Swedish], ORSTADIUS Ent. Tidskr. 51 1930.—*C. verberata* subsp. n. *judicariae* N. Italy p. 193 figs., FLORI Studi trentini 12.—*C. perpusillata*, *hispanata* spp. n. Spain p. 217 figs., FERNÁNDEZ Eos 7.—*C. discomelaina* sp. n. China p. 108, WEHRLE Mitt. deuts. ent. Ges. 2.—*C. procellata* subsp. n. *szechuanensis* p. 21; *exserens* sp. n. p. 22 China, WEHRLE N. Beitr. syst. Insektenk. 5.—*C. (Xanthorhoe) ferrugata*, *spadicaria* compared pp. 77-83, 85-91, 1 pl. 6 figs., WARNECKE Int. ent. Z. 25.—*C. contrastaria* sp. n. China p. 85, STERNACK Iris 45.

Coenina collenettei sp. n. Br. Somaliland p. 265, PROUT Ann. Mag. N.H. (10) 7.

Collix dichobathra sp. n. Br. New Guinea p. 24, PROUT Novit. zool. 37.

Comostolopsis leuconeura sp. n. Reunion p. 45, PROUT in SEITZ 16.

Comptosia opacaria var. *rubra* not confined to ♂♂ p. 40, DURAND Lambillionea 31; notes p. 94, DERENNE Lambillionea 31.

Copdonia pendularia ab. n. *hatertica* Holland p. 180 figs., SCHULTZ Int. ent. Z. 25.

Corymica pardalota sp. n. Borneo p. 33, PROUT Novit. zool. 37.

Cosymbia linearia ab. n. *semifasciata* Belgium p. 30, DERENNE Lambillionea 31.

Craspedosis aurianalis sp. n. New Ireland; *albigutta* subsp. n. *truncifascia* Vulcan I.; *semilugens* subsp. n. *tenuivirga* Dampier I. p. 168, PROUT Novit. zool. 36.

Crocallis elinguaris biology in Holland pp. 286-288, VAN DER MEULEN Ent. Ber., Putten 8.—*C. tusciana* biology, distribution in Germany pp. 71-76, GUTH Ent. Z., Frankfurt a. M. 45.

Ctenognophos imaginata sp. n. Sikkim p. 166, PROUT Novit. zool. 36.

Ctimene spilognota Mindanao, *deceptrix* Dutch New Guinea, spp. n. p. 167, PROUT t.c.

Derambila livens sp. n. Borneo p. 18, PROUT op. cit. 37.

Diceratucha a Notodontid, q.v.

Dooabia puncticostata subsp. n. *quantula* Mentawai Is. p. 5, PROUT Novit. zool. 37.

Dysphania subrepleta subsp. n. *irrepleta* Mentawai Is. p. 5, PROUT t.c.

Dysstroma heydemanni sp. n. Luzon p. 162; *rufibrunnea* notes p. 161, PROUT op. cit. 36.—*D. concinnata* status discussed pp. 193-196, etc., SHELDON Entomologist 64.—*D. citrata* taxonomy and variation p. 413; *variata* Thbg. nec Bergst. (= *centumnotata* F.) p. 417 figs., NORDSTRÖM Int. ent. Z. 24.—*D. citrata*, *truncata* ontogenetical study of different ff. pp. 49-51 fig., HEYDEMANN Z. öst. EntVer., Vienna 16; taxonomy p. 405, HEYDEMANN Int. ent. Z. 24.

Ecliptopera zophera Sikkim p. 159, *ctenophia* Java p. 160 36, *albugilva* Szechuan spp. n.; *muscolor* subsp. n. *allobathra* Formosa p. 23 37, PROUT Novit. zool.

Ectropis oleitincta sp. n. Br. Somaliland p. 268, PROUT Ann. Mag. N.H. (10) 7.—*E. pais* sp. n. Fed. Malay Straits p. 166 36; *simplaria* subsp. n. *transstigma* Luzon p. 32 37, PROUT Novit. zool.

Electrophaes vesti sp. n. Luzon p. 161, PROUT op. cit. 36.

Ellopia fiscellaria morphology, biology pp. 219-275 figs., SCHEDL Z. angew. Ent. 18.

Ematurga atomaria groups and races pp. 149-156, DERENNE Lambillionea 31.

Ennomos aenigma, *fumosa* see *Acrodonitis*.

Epigynopteryx lioloma sp. n. Br. Somaliland p. 267, PROUT Ann. Mag. N.H. (10) 7.—*E. flexa* sp. n. Kamerun p. 172, PROUT Novit. zool. 36.

Epamraica bilineata sp. n. Japan p. 130 fig., MATSUMURA Thous. Ins. Japan Suppl. 2 1909.

Episteira vacuefacta sp. n. Malay Peninsula p. 164, PROUT Novit. zool. 36.

Eretmopus key p. 153, *retensa* sp. n. Mindanao p. 154, PROUT t.c.

Erosina hybernata subsp. n. *fulvescens* Jamaica p. 180, PROUT t.c.

Euacidalia chockolatella, *nigridaria* p. 9, *puerta* p. 12, *griseata* p. 13, *quakerata* p. 14, *helena* p. 15, *brownsvillea* p. 17, *ferruginata* p. 18, *benubia* p. 21, *pimacoata* p. 23, spp. n. U.S.A., CASSINO Lepidopterist 5.

Eubordeta meeki subsp. n. *amyntica* New Guinea p. 168, PROUT Novit. zool. 36.

Eucrostes pygmaea sp. n. Sokotra I. p. 97, REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Eudule secticolor sp. n. Brazil p. 177, PROUT Novit. zool. 36.

Eumelea ludovicata subsp. n. *biclarata*, *referta*; *rosalia* subsp. n. *cacuminis*; *smedleyi* sp. n. Mentawai Is. p. 3, PROUT op. cit. 37.

Euphja kirschi subsp. n. *chaconis* Argentina p. 22, PROUT Mitt. münchn. ent. Ges. 21.

Eupithecia duplex sp. n. China p. 86, STERNECK Iris 45.—*E. profuga* sp. n. Br. Somaliland p. 264, PROUT Ann. Mag. N.H. (10) 7.—*E. lacteolata* subsp. n. *sublacteolata* p. 17; *nanata* subsp. n.

kozantschikovi p. 19 Minussinsk, WEHRLI Jahrb. Martj. Staatsmus. Minussinsk 6 (1928) 1929.—*E. wehrlii* sp. n. Asia Minor p. 369, WAGNER Int. ent. Z. 25.—*E. spilocyma, wilemani* Luzon p. 24, *cauditorната, partitecta* Br. New Guinea p. 25, spp. n., PROUT Novit. zool. 37.

Euterpia loudeti ab. n. *umbrata* Aragon p. 179 figs., SCHULTZ Int. ent. Z. 25.

Fascellina arcipotens, hypocausta spp. n. Mindanao p. 30, PROUT Novit. zool. 37.

Fulgorodes ypiranga sp. n. Brazil p. 179, PROUT op. cit. 36.

Galenara consimilis sp. n. New Mexico p. 1 figs., HEINRICH Proc. U.S. Nat. Mus. 79 no. 2879.

Glossotrophia diffinaria ab. n. *ochreararia* Anatolia p. 485, WAGNER Int. ent. Z. 24.

Gnophos oreas ♂ p. 28, PROUT Mitt. münchn. ent. Ges. 21.—*G. hypochrysa* p. 52, *leptogramma* p. 53, spp. n. W. China, WEHRLI Mitt. schweiz. ent. Ges. 15.—*G. variegata* subsp. n. *sicula* Sicily; *libanotica* sp. n. Lebanon p. 45, WEHRLI Mitt. münchn. ent. Ges. 21.—*G. tetarte* sp. n. Peking p. 30, WEHRLI N. Beitr. syst. Insektenk. 5.—*G. asperaria* new to Switzerland p. 54, NAIER Mitt. schweiz. ent. Ges. 15.—*G. sordaria* ab. n. *radiata* Sweden p. 51, BRUNDIN K. sven. Vet. Skrift. Natursk. 16.—*G. myrtillata* varr. n. *cyanea, irrorata, signata* Germany p. 525, OSTHELDER Mitt. münchn. ent. Ges. 21 suppl.

Gonanticlea oclusata subsp. n. *laetifica* N. India p. 23, PROUT Novit. zool. 37.

Goniopteroloba carigodes sp. n. Sumatra p. 27, PROUT t.c.

Gonodontis nitobei sp. n. Japan p. 81 figs., MATSUMURA Thous. Ins. Japan Suppl. 2 1909.—*G. crocalliaria* W. China p. 112, *mediochrea* p. 113 spp. n.; *insulata* subsp. n. *tsekua* p. 114 Tibet, WEHRLI Ent. Z. 45.

Hemistola chrysoprasaria subsp. n. *occidentalis* p. 9; *zimmermanni* subsp. n. *pseudochrysoprasaria* p. 12 Minussinsk, WEHRLI Jahrb. Martj. Staatsmus. Minussinsk 6 (1928) 1929.

Hemithea melalopha sp. n. Luzon p. 154, PROUT Novit. zool. 36.

Heteromiza leucogonia life-history p. 68, FLETCHER Proc. Ent. Soc. Lond. 5.

Heterophleps fusca subsp. n. *sinearia* p. 18; *bicommatata* subsp. n. *clarivenata* p. 19 China, WEHRLI N. Beitr. syst. Insektenk. 5.

Heterostegane thibetaria sp. n. Tibet p. 54, WEHRLI Mitt. schweiz. ent. Ges. 15.

Horisme corticata subsp. n. *pfeifferi* Syria p. 43, WEHRLI Mitt. münchn. ent. Ges. 21.

Hosseusia gen. n. (Geometrinae) p. 24, *coa* sp. n. Argentina p. 25, PROUT Mitt. münchn. ent. Ges. 21.

Hybernia defoliaria abb. n. *destrigata* p. 5, *punctata* p. 6 no localities, GORNIK Z. öst. EntVer. 17.

Hydrelia leucogramma sp. n. W. China p. 102, WEHRLI Ent. Z. 45.

Hymenomima conia sp. n. Bolivia p. 31, PROUT Mitt. münchn. ent. Ges. 21.

Hypochrosis aurantia Mab. from *Orgyia* (Lymantriidae) p. 512, COLLENETTE Ann. Mag. N.H. (10) 7.

Hyposidralactiflua sp. n. N. Borneo p. 31, PROUT Novit. zool. 37.

Iridopsis silia sp. n. Argentina p. 29, PROUT Mitt. münchn. ent. Ges. 21.

Laciniodes stenorhabda sp. n. China p. 27, WEHRLI N. Beitr. syst. Insektenk. 5.

Lampropteryx neelys subsp. n. *szechuana* China p. 21, WEHRLI t.c.

Larentia spp. variation and melanism pp. 112–113, 118, etc.; *truncata* abb. n. *modesta* p. 119, *griseofasciata, albofasciata* p. 120, *melaina* p. 136, *cervina* p. 141; *immanata* abb. n. *grisea, saturata, confluenta, inumbrata* p. 162, *dimidiata* p. 163, *albofasciata* p. 164, *bicolor, intermedia* p. 182, *pseudopythonissata* Austria p. 183, *composita* Denmark p. 232, MÜLLER Ent. Rdsch. 48.—*L. tenuis* sp. n. Queensland p. 337, TURNER Proc. Linn. Soc. N.S.W. 56.—*L. albida* critical notes p. 177 figs., SCHULTZ Int. ent. Z. 25.—*L. lugubrata* *indistincta* Ost. (= *l. effusa* Müll.) p. 97, OSTHELDER Mitt. münchn. ent. Ges. 20.—*L. truncata, immanata* in Denmark colour variation p. 160, GROTH Ent. Rdsch., Stuttgart 48; divergence or parallelism of forms pp. 78–81, 88–90,

MÜLLER Z. öst. EntVer. 16; taxonomic notes pp. 456-466, MÜLLER Int. ent. Z. 24.—*L. aqueata* var. n. *nevadensis* Sierra Nevada p. 74, REISSER Z. öst. EntVer. 16.

Leucula toxulca sp. n. Argentina p. 32, PROUT Mitt. münchn. ent. Ges. 21.

Homographa dilectaria subsp. n. *trimaculoides* Syria p. 44, WEHRLI Mitt. münchn. ent. Ges. 21.—*L. minax* sp. n. W. China p. 33, PROUT Novit. zool. 37.

Lophostola atridisca subsp. n. *dummersi* Uganda p. 43, PROUT in SEITZ 16.

Lygris pyropata ab. n. *melanozantha* Germany p. 2 fig., WAGNER Z. öst. EntVer. 17.

Macaria ornataria Leech a good sp. p. 21; *saburraria* subsp. n. *chamilaria* Minussinsk p. 22, WEHRLI Jahrb. Martj. Staatsmus. Minussinsk 6 (1928) 1929.

Mannia oranaria var. n. *espaniola* Albarracin p. 137 fig., SCHAWERDA Mitt. münchn. ent. Ges. 20.

Micromia scotochlaena sp. n. Dutch New Guinea p. 26, PROUT Novit. zool. 37.

Milonia curosyne Dutch New Guinea p. 169 36, *conducta* Java spp. n.; *pericallis* subsp. n. *keysseri* New Guinea p. 33 37, PROUT op. cit.

Narragodes costinota p. 34, *nyctiscia* p. 35, spp. n. Bolivia, PROUT Mitt. münchn. ent. Ges. 21.

Nartheccusa tenuiorata subsp. n. *perspersa* Nigeria p. 173, PROUT Novit. zool. 36.

Naxidia (*Binareolaria* subgen. n. p. 20) *roseni* p. 19, *hypocyrtia* p. 21, spp. n.; *irrorata* subsp. n. *glaphyra* p. 20 China, WEHRLI N. Beitr. syst. Insektenk. 5.

Negloides gen. n. (nr. *Nartheccusa*), *oceanitis* sp. n. Madagascar p. 174, PROUT Novit. zool. 36.

Ninodes miegi sp. n. Korea p. 88, STERNACK Iris 45.

Odysia laetipicta sp. n. Venezuela p. 178, PROUT Novit. zool. 36.

Omphacodes purifimbria sp. n. Tanganyika p. 42, PROUT in SEITZ 16.—*O. trilineata* and others see *Syncollesis*.

Oporinia spp. systematic notes pp. 9-14 figs., WARNECKE Int. ent. Z. 25.—*O. nebulata* status and synonymy pp. 248-250 figs. [in Swedish], NORDSTRÖM Ent. Tidskr. 51 1930.

Ortholitha dicaea subsp. n. *exacra* p. 17, *extrastrenua* p. 18 China, WEHRLI N. Beitr. syst. Insektenk. 5.

Orthonama vittulata Schaus (= *densilineata* Warr.) p. 20, PROUT Mitt. münchn. ent. Ges. 21.

Ozola concreta sp. n. Langkawi I. p. 151, PROUT Novit. zool. 36.

Parazoma hypobasis sp. n. Upper Burma p. 163, PROUT t.c.

Parumelea hortensiata subsp. n. *extinguens* Mentawai Is. p. 11, PROUT op. cit. 37.

Percnia felinaria var. n. *formosana* Formosa p. 112 fig., MATSUMURA Thous. Ins. Japan Suppl. 2 1909.

Perizoma critical notes on various spp. pp. 264-267, HANNEMANN et al. Int. ent. Z., Guben 25.

Phalaena (*Psyroides* subgen. n. p. 28) *flavivertex* sp. n. China p. 29, WEHRLI N. Beitr. syst. Insektenk. 5.

Pherotesia abjecta sp. n. Peru p. 177, PROUT Novit. zool. 36.

Photoscotosia miniosata subsp. n. *cupha* Luzon p. 160, PROUT t.c.

Phrudocentra tanystys sp. n. Brazil p. 174, PROUT t.c.

Phyllodonta cataphracta sp. n. Peru p. 179, PROUT t.c.

Poecilasthena phaeodryas sp. n. Queensland p. 335, TURNER Proc. Linn. Soc. N.S.W. 56.

Pseudogenusa opalescens see *Olapa makala* (Lymantriidae).

Psilocerea hypermetra sp. n. Br. Somaliland p. 267, PROUT Ann. Mag. N.H. (10) 7.

Psyroides subgen. n. see *Phalaena*.

Ptochophyle porphyrochlamys sp. n. Malay Peninsula p. 155, PROUT Novit. zool. 36.

Ptychopoda systematic notes on spp. from Sierra Nevada pp. 453-456 fig., REISSER Int. ent. Z. 24.—*P. similata* ab. n. *uniformis* Austria p. 62, KAUTZ Z. öst. EntVer. 16.—*P. dimidiata*

subsp. n. *antitaurica*; *antennata* sp. n. Syria; *sanctaria* subsp. n. *outayana* Algeria p. 41, WEHRLI Mitt. münchn. ent. Ges. 21.—*P. infirmaria* ab. n. *lucia* Corsica p. 36, SCHAWERDA Z. öst. EntVer. 16.—*P. completa* var. n. *sub-completa* Spain p. 216 fig., FERNÁNDEZ EOS 7.—*P. nibseata* sp. n. Arizona p. 22, CASSINO Lepidopterist 5.—*P. herbariata* morphology, biology pp. 233–266 figs., CANDURA Boll. Lab. Zool. Portici 24.

Racotis apodosima sp. n. Delagoa Bay p. 171, PROUT Novit. zool. 36.

Rhodophthitus thapsinus sp. n. Angola p. 173, PROUT t.c.

Rhodostrophia tabidaria abb. n. *tenuistrigata* p. 27, *punctaria* p. 30 Rumania figs., CARADJA Mem. Sect. Stiint. Acad. Romăna (3) 7 no. 8.—*R. vibicaria* var. n. *angustiniaria* Spain p. 215 fig., FERNÁNDEZ EOS 7.

Rhomboptila calamensis sp. n. Rio Madeira; *cajanuma* subsp. n. *irrufata* Guiana p. 180, PROUT Novit. zool. 36.

Rhopalista dismutata see Baynia.

Sabaria anagoga sp. n. Borneo p. 29, PROUT Novit. zool. 37.

Sauris improspira India 36 p. 164, *coalita* Perak 37 p. 28, spp. n., PROUT op. cit.

Scodiona conspersaria subsp. n. *osmanica* Anatolia p. 490 figs., WAGNER Int. ent. Z. 24.

Scopula imitaria ab. n. *umbrata* Belgium p. 185, DUFRANE Lambillionea 31.—*S. nephotropa* sp. n. Br. Somaliland p. 263, PROUT Ann. Mag. N.H. (10) 7.—*S. desita* subsp. n. *luzonica* Philippines p. 157; *inflexibilis* Andamans, *parodites* Malay Peninsula p. 156, *succrassula* p. 157 36, *benguetensis* p. 19 Philippines, *seductilis* p. 18, *corrupta*, *clarivialis* Sumatra spp. n.; *inficita* subsp. n. *philippina* Luzon p. 19 37, PROUT Novit. zool.

Scordylia lymnadoides sp. n. Cuba p. 133, PROUT op. cit. 37.

Scotocyna transfixa sp. n. Queensland p. 337, TURNER Proc. Linn. Soc. N.S.W. 56.

Seitzia see *Adalbertia*.

Seleniopsis francki sp. n. Szechuan p. 31, PROUT Novit. zool. 37.

Selidosema melinata Feld. (= *scari-phota* Meyr.) p. 26, PHILPOTT Trans. N.Z. Inst. 62.—*S. ericetaria* northern distribution pp. 217–222, WARNECKE Int. ent. Z. 25.—*S. ericetaria scandinaviana* northern distribution pp. 272–278, HEYDEMANN Int. ent. Z. 25.

Semaecopus enodiflexa Paraguay p. 175, *mira* Peru p. 176, spp. n., PROUT Novit. zool. 36.

Semiothisa atmala subsp. n. *smedleyi* Mentawai Is. p. 15, PROUT op. cit. 37.

Sesquialtera audens sp. n. Br. Somaliland p. 266, PROUT Ann. Mag. N.H. (10) 7.—*S. lonchota* sp. n. Abyssinia p. 173, PROUT Novit. zool. 36.

Spaniocentra agathoides sp. n. Mindanao p. 153, PROUT t.c.

Spargania subtilisecta Peru 36 p. 176, *clementi* Cuba 37 p. 133, spp. n., PROUT op. cit.

Steiropora altitudinum sp. n. Sumatra p. 28, PROUT op. cit. 37.

Stenalcidia contempta sp. n. Argentina p. 30, PROUT Mitt. münchn. ent. Ges. 21.

Sterrha ochrata ab. n. *major* p. 185; *aversata* ab. n. *fuchsi* p. 187 Belgium, DUFRANE Lambillionea 31.—*S. pallidata* new to Belgium p. 114, DERENNE Lambillionea 31.—*S. homalorrhoe*, *opsiteles* p. 158, *celativestis* p. 159 36, *phaeocrossa* p. 20 Malaya, *diphyes* Luzon p. 21 37, spp. n., PROUT Novit. zool.

Syncollesis gen. n. for *Omphacodes trilineata* Hmps. and others, *idia* sp. n.; *coerulea* f. n. *zetetea* Nyasaland p. 41, PROUT in SEITZ 16.

Synegia thamiosticta sp. n. Mentawai Is. p. 11, PROUT Novit. zool. 37.

Terpna loncheres sp. n. Borneo p. 24, PROUT t.c.

Thamnonoma wauaria abb. n. *v-remotum* p. 178, *v-solum* p. 179 Germany figs., SCHULTZ Int. ent. Z. 25.

Timandra amata f. n. *comae* Spain p. 57 figs., SCHMIDT Int. ent. Z. 25.

Tropicollesis gen. n. (Hemitheinae) *albiceris* sp. n. Kenya p. 42, PROUT in SEITZ 16.

Venilia macularia ab. n. *krombholzi* Bohemia p. 37 fig., STERNECK Int. ent. Z. 25.

Venusia lilacina subsp. n. melanogramma p. 23; *violettaria* (with subsp. n. *kukunoora*), *syngenes* spp. n. p. 24 China, WEHRLI N. Beitr. syst. Insektenk. 5.—*V. blomeri* subsp. n. *szechuanensis* Szechwan p. 104, WEHRLI Ent. Z. 45.

Visitara charitopsis sp. n. Luzon p. 33, PROUT Novit. zool. 37.

Xanthorhoe cybele sp. n. Formosa; *curcumata* Moore (= *placida* Prout); *formosicola* Bastelb. (= *viridilineata* Bastelb., *viriditincta* Wilem.) p. 22; *herbicolor* sp. n. Cuba p. 133, PROUT Novit. zool. 37.

Xeropteryx columbicola subsp. n. media Mentawai Is. p. 10, PROUT t.c.

Zamarada consecuta subsp. n. mesotaenia Br. Somaliland p. 272, PROUT Ann. Mag. N.H. (10) 7.

Zygophyxia transmeata sp. n. Br. Somaliland p. 263, PROUT t.c.

DIOPTIDAE.

Apocinesia gen. n. for *Sagaris dilatata* Wlk. p. 55, BRYK Lep. Cat. 42 1930.

Dioplis key pp. 70–72, FORBES J. N.Y. Ent. Soc. 39.

Josia key pp. 72–76, FORBES t.c.

Sagaris dilatata see *Apocinesia*.

SATURNIIDAE.

Catalogue of silk-producing Saturniids, BOUVIER & RIEL Rap. Lab. Etudes Soie 17 pp. 1–90, 3 pls.

Notes on emergence of Saturniidae, WYSS Proc. Junior Soc. Nat. Sci. 2 pp. 4–6.

Actias selene food-plants p. 219, KLAUE Ent. Z. 45.

Aglia tau melanism in the Ruhr pp. 496–500 figs., BRINKMANN Int. ent. Z. 24; in Lübeck p. 18, KNOCK Int. ent. Z. 25.

Antheraea pernyi food-plants in Manchuria pp. 279–285 [in Japanese], YUKAWA Oyo-Dobuts. Zasshi, Tokyo 3.

Attacus atlas life-history pp. 795–808 fig., CHAN Lingnan Sci. J. 7.—*A. ricini* rearing of broods in Egypt pp. 140–156, ADAIR E. W. and E. E. Bull. Soc. ent. Egypte 1931; effect of external factors on development pp. 294–296 fig., JANISCH Z. Morph. Oekol. Tiere 22.—*A. jorulla* biology, colour of larva p. 145, BANDERMANN Int. ent. Z. 25.

Automeris stuarti subsp. n. *kohleri* Argentina p. 251, GEMIGNANI Rev. Soc. ent. argent. 3.

Bunaepsis lueboensis sp. n. Belgian Congo p. 345, BOUVIER Rev. Zool. Bot. afr. 20.

Caligula simla notes on breeding p. 421, BANDERMANN Ent. Anz. 11; rearing in winter pp. 175–176, KLAUE Ent. Z. 45.

Callosamia promethea significance of sexual differences p. [50], WYSS Proc. Jun. Soc. Nat. Sci. 1 1930.

Dirphia superba Burm. (= *lulesa* Schaus) p. 209 fig., BREYER Rev. Soc. ent. argent. 3.

Hylesia Argentine spp. pp. 305–308, key p. 308 figs., KÖHLER Rev. Soc. ent. argent. 3.

Nudaurelia kafubuensis sp. n. Belgian Congo p. 204, notes on *standingericonradsi* group pp. 201–203, BOUVIER Rev. Zool. Bot. afr. 20.—*N. kafubuensis* larva p. 206, SEYDEL Rev. Zool. Bot. afr. 20.—*N. hoekneli* subsp. n. *rubrescens* Kenya p. 70, REBEL Z. öst. EntVer. 16.

Philosamia cynthia ricini morphology, biology pp. 20–51 figs., BODENHEIMER Bull. Soc. ent. Egypte 1931.

Rothschildia speculifer description of all stages pp. 318–320, VOGELER Ent. Z., Frankfurt a. M. 44.—*R. aurata* biology p. 33, HELLÉ Riviera sci. 18.

Saturnia pavonia notes on abb. p. 69, BETZ Lambilliona 31.

CERATOCAMPIDAE.

Adelpha cocala ab. n. *chlida* Rio de Janeiro p. 85, d'ALMEIDA Lambilliona 31.

LEMONIIDAE.

Lemonia balcanica subsp. n. *anatolica*, ab. n. *brunneomarginata* Asia Minor p. 367, WAGNER Int. ent. Z. 25.

BRAHMIDAE.

Dactyloceras tridentata in Tropical Africa p. 140 fig., SCHULTZE Iris 45.

BOMBYCIDAE.

Reprints of papers on silkworms, FIGORINI & others Annu. Staz. bacol. sper. Padova 46 vi + 848 pp. many figs.

Bombyx mori study of eggs pp. 43-46, parthenogenesis pp. 139-160 figs., NICETA Boll. Lab. Zool. Bachic. Milano 1 1930; larval birth pp. 22-45 figs., GRANDORI Boll. Lab. Zool. Bachic. Milano 2; natural parthenogenesis pp. 116-149 figs., BUGINI Boll. Lab. Zool. Bachic. Milano 2; variation in eggs pp. 32-44 fig., ALPATOV & BACHVALOVA Rev. zool. russe 10 no. 4 1930; growth of larva pp. 45-56 figs., MANUILOVA Rev. zool. russe 10 no. 4 1930; digestion p. 117 figs., SHINODA Annot. zool. jap. 13; artificial parthenogenesis pp. 382-394 figs., SATO Biol. Zbl. 51; premature reversal of heart-beat p. 323, GEROULD Science 73; natural colour of cocoon pp. 117-125, DEMIANOVSKI & RAKOVSKA Arb. Moskau. ForschSta. Seide u. Seidenraup. 3 1928 no. 1-4; response to odours pp. 129-141, NAKAZIMA Bull. Miyazaki Coll. Agric. Forestry 3; influence of radioactive earths on larval development pp. 225-227, MEZZADROLI & VARETON Atti Accad. naz. Lincei, Rend. Cl. Sci. fis., mat. nat. 14; five generations bred on *Maclura aurantiaca* p. 17, VECCHI Boll. Zool. 1 1930; effects on growth of artificial food pp. 353-365, ABONYI Mat. Term. Ert. 47 1930; effect on second generation of feeding on thyroid p. 205, TERAQ & WAKAMORI Proc. Imp. Acad. Tokyo 7; production of ammonia in egg p. 204, ASHBEI Pubbl. Staz. zool. Napoli 11; genetics pp. 222-247 figs., BOBROW & FRIESEN Z. indukt. Abstamm.- u. Vererb.-Lehre 58; cytology of hereditary gynaecomorphs pp. 58-74 fig., GOLDSCHMIDT & KATSUKI Biol. Zbl. 51; inheritance in colour of cocoons pp. 122-156, OGURA Z. indukt. Abstamm.- u. Vererb.-Lehre 58.

URANIIDAE (EPICOPEIDAE).

Supplement to Palaearctic Epicopeidae, DRAUDT in SEITZ Suppl. 2 p. 51.

Catalogue of Uraniidae, DALLA TORRE Lep. Cat. 30 1924 17 pp.

Urania ripheus ab. n. *papagena* Madagascar p. 486 fig., NIEFELT Int. ent. Z. 24.

EPIPLEMIDAE.

Catalogue of Epiplemidae, DALLA TORRE Lep. Cat. 30 1924 38 pp.

Polygonia see *Powondrella*.

Powondrella n. n. for *Polygonia* Gey. nec Hb. p. 24, DALLA TORRE Lep. Cat. 30 1924.

PSYCHIDAE.

Psychidae of Argentina, KÖHLER Rev. Soc. ent. argent. 3 pp. 347-352, 8 figs.

Apteron helix biology p. 56, NÄGELI Mitt. schweiz. ent. Ges. 15.

Epichnopteryx retiella, *tarnierella* distribution p. 146, DE JOANNIS Lam-billionea 31.

Oiketicus elegans sp. n. Argentina p. 351 fig., KÖHLER Rev. Soc. ent., argent. 3.

Platoeceticus tandilensis p. 350, *rugosus* p. 351, spp. n. Argentina figs., KÖHLER t.c.

Plutorectis pantosemna sp. n. W. Australia p. 342, TURNER Proc. Linn. Soc. N.S.W. 56.

Sterrhopteryx contrastella p. 71, *sajanella* p. 72, spp. n. Minussinsk, KOZHANTSCHIKOV Jahrb. Martj. Staatsmus. Minussinsk 6 (1928) 1929.

COSSIDAE.

Catalogue of Cossidae, DALLA TORRE Lep. Cat. 29 1923 63 pp.

Cossus terebra in French Alps p. 76, BERTHET Bull. Soc. ent. Fr. 1931.

Dyspessa ulula ab. n. *nigrita* Anatolia p. 492 fig., WAGNER Int. ent. Z. 24.

Holcocerus sheljuzhkoii sp. n. Aksu [? Turkestan] p. 138 fig., SCHAWERDA Mitt. münchn. ent. Ges. 20.

Hypopta agavis larval morphology pp. 265-277 figs., ANCONA An. Inst. Biol. Univ. Mexico 2.

METARBELIDAE (ARBELIDAE,

LEPIDARBELIDAE, TERAGRIDAE).

Catalogue of Lepidarbelidae, DALLA TORRE & STRAND Lep. Cat. 28 1923 10 pp.

Arbela see *Lepidarbela*.

Lepidarbela n. n. for *Arbela* Mo. nec Stål [but cf. *Indarbela* Fletch. in Zool. Rec. lix 1922 p. 334], DALLA TORRE & STRAND Lep. Cat. 28 1923.

LASIOCAMPIDAE.

Bombycopsis hyatti Somaliland, *lepta* Kenya, spp. n. p. 6 figs., TAMS Ann. Mag. N.H. (10) 7.

Chilena scotti Abyssinia p. 12, *cardinali* Gold Coast p. 13, spp. n. figs., TAMS t.c.

Chrysopsyche pyrodes sp. n. N.W. Rhodesia p. 13 fig., TAMS t.c.

Crinocraspeda guttata sp. n. Japan p. 85 fig., MATSUMURA Thous. Ins. Japan Suppl. 1 1908.

Epicnaptera arborea method of breeding p. 90, FISCHER Ent. Z. 45.

Gastropacha quercifolia biology p. 161, BANDERMANN Ent. Anz. 11; ab. n. *luteobasalis* no locality p. 301 fig., NIEBELT Int. ent. Z. 25.—*G. populifolia* abb. p. 220 figs., BELLIN Ent. Z., Frankfurt a. M. 45.

Lasiocampa quercus morphology of three European races p. 125, REHFOUS Bull. Soc. lép. Genève 6; pairing, oviposition p. 126, PICTET Bull. Soc. lép. Genève 6 and pp. 373, 449-467, Rev. suisse Zool. 38.

Lechriolepis nephopyropa N.W. Rhodesia p. 14, *cryptognoma* Centr. Africa p. 15, spp. n. figs., TAMS Ann. Mag. N.H. (10) 7.

Leipozais typodes Uganda p. 8, *dolichoprygma* Belgian Congo p. 9, spp. n. figs., TAMS t.c.

Odontocheilopteryx ungemachi p. 10, *eothina* p. 11, spp. n. Abyssinia figs., TAMS t.c.

Opisthodontia spodopasta sp. n. Gold Coast p. 2 fig., TAMS t.c.

Pachypasa chaerocampoides Holl. distinct sp.; *papyri* sp. n. Uganda p. 36 figs., TAMS op. cit. (10) 8.

Pseudolyra megista p. 3, *parva* p. 4, spp. n. E. Africa figs., TAMS op. cit. (10) 7.

Streblote finitorum p. 4, *collegettei* Br. Somaliland, *dysimata* Sudan p. 5, *callizona* Kenya p. 6, spp. n. figs., TAMS t.c.

Taragama fainae sp. n. Khiva p. 58 fig., GERASIMOV Mitt. münchen. ent. Ges. 21.

Trabala prasinosphena sp. n. Belgian Congo p. 15 fig., TAMS Ann. Mag. N.H. (10) 7.

Voracia gen. n., *casuariniphaga* sp. n. E. Java p. 53 fig., VAN EECCKE Zool. Meded. 14.

ENDROMIDAE.

Endromis versicolora f. n. *diabolica* Westphalia p. 83, variation p. 145 fig., NIEBELT Int. ent. Z. 25.

PEROPHORIDAE (MIMALLONIDAE).

Catalogue of Mimallonidae of the World, GAEDÉ Lep. Cat. 50 21 pp.

EPIPYROPIDAE.

Epipyrops cucullata sp. n. Haiti p. 2 figs., HEINRICH Proc. U.S. Nat. Mus. 79 no. 2879.

MEGALOPYGIDAE.

Megalopyge urens morphology, biology pp. 75-81 figs., ESTABLE An. Mus. nac. Montevideo (2) 3 1929.

LIMACODIDAE (COCHLIDIONIDAE).

Catalogue of Indo-Australian Limacodidae, HERING in SEITZ 10 pp. 665-720, 4 pls.

List of Cochlidionids of Japan, MATSUMURA Ins. mats. 5 pp. 108-116.

Altha circumscripta sp. n. Minahassa p. 680, HERING in SEITZ 10.—*A. subrosea* see *Natarosa*.

Anapaea denotata see *Pseudanapaea*.

Araeogyia phaeopasta see *Euphlyctina*.

Arbelarosa gen. n. for *Narosa rufotessellata* Mr., *mediodorsata* sp. n. Borneo p. 677, HERING t.c.

Beggina gen. n., *lymantrina* sp. n. Solomons p. 702, HERING t.c.

Birithama nigrina sp. n. Borneo p. 688, HERING t.c.

Birithamoides gen. n. for *Hyblaea junctura* Wlk. and others, *extincta*, *ramosa* Bougainville, *angustipennis*, *circulifera*, *rubrimixta* New Guinea, spp. n. p. 703, HERING t.c.

Birithamula gen. n. for *Contheyla chara* Swh. (type), *diffusa* Warr. (with f. n. *nigroapicalis* India) p. 704, HERING t.c.

Caissa gen. n., *caissa* (type), *gambita* spp. n. India p. 700, HERING t.c.

Calcarifera gen. n. for *Doratifera ordinata* Butl. p. 720, HERING t.c.

Cania bilinea subspp. n. *robusta* Siao-Lou, *pallida* Tsekou; *striola* sp. n. Neth. E. Indies p. 679, HERING t.c.

Ceratonema bilineatum p. 698, *imitatrix* N. India, China, *nigribasale*, *concaum* Burma, *palpiferum* India p. 699, *basiplaga* Sikkim p. 700, spp. n., HERING t.c.—*C. rufibasale* Hmpsn. (= *Dactylorhynchides limacodiformis* Strd. Lymantriidae) p. 512, COLLENETTE Ann. Mag. N.H. (10) 7.

Chalcoscelides gen. n. for *Miresa castaneipars* Mr. p. 686, HERING in SEITZ 10.

Chalcofelis eulopha sp. n. N. Queensland p. 334, TURNER Proc. Linn. Soc. N.S.W. 56.

Cheromettia melli sp. n. China p. 673, HERING in SEITZ 10.

Chibiraga gen. n., *nantonis* sp. n. Formosa p. 103 fig., MATSUMURA Ins. mats. 5.

Cnidocampa rubriceps sp. n. Formosa p. 105, MATSUMURA t.c.

Cochlidion dentatus early stages, life-history pp. 33–36 figs. [in Japanese], KAWADA & YENDO Kontyû 3 1929.

Cochliopodina gen. n., *argentifera* sp. n. Khasis p. 718 fig., HERING in SEITZ 10.

Comana brunneipennis Oinainisa, *inexpectata* N. Australia, spp. n. p. 708 figs., HERING t.c.

Comanula gen. n., *bipunctata* sp. n. S. Australia p. 707 fig., HERING t.c.

Contheyla tenuis sp. n. S. India p. 708 fig., HERING t.c.—*C. brunnea* sp. n. Formosa p. 405 [English description], SHIRAKI Spec. Rep. Formosa Agric. Expt. Sta. 8 1913.—*C. chara*, *diffusa* see *Birhamula*.

Contheyloides gen. n. p. 105, *boninensis* sp. n. Bonin I. p. 104 fig., MATSUMURA Ins. mats. 5.

Crothaema Butl. not a Tortricid p. 157, MEYRICK Exot. Micr. 4.

Demonarosa gen. n., *rosea* sp. n. Formosa p. 105 fig., MATSUMURA Ins. Mats. 5.

Dinawa nigricans see *Dinawides*.

Dinawides gen. n. for *Dinawa nigricans* B.-B. (with f. n. *opaca* New Guinea) p. 693, HERING in SEITZ 10.

Doratifera nagodina sp. n. New Guinea p. 693, HERING t.c.—*D. ordinata* see *Calcarifera*.

Euphlyctina gen. n. for *Araeogyia phaeopasta* Hmpsn. p. 704, HERING in SEITZ 10.

Euphlyctinides gen. n., *rava* sp. n. India p. 704, HERING t.c.

Hyblaea junctura and others see *Birhamoides*.

Hydroclada nigriplaga sp. n. New Britain p. 705 fig., HERING t.c.

Hyphorma minax subsp. n. *margaritacea* N. Borneo p. 691, HERING t.c.

Hyphormides gen. n., *argentipunctata* sp. n. Borneo p. 691, HERING t.c.

Hyphormoides gen. n., *okinawanus* sp. n. Japan p. 104 fig., MATSUMURA Ins. mats. 5.

Iragaodes gen. n. for *Phrixolepia nobilis* Stgr. (with f. n. *formosicola*); *albiceps* sp. n. Formosa p. 106, MATSUMURA t.c.

Iragoides gen. n. for *Miresa crispa* Swh. (type) and others, *elongata* Burma p. 709, *melli* spp. n.; *taiwana* r. n. *uniformis* China p. 710 figs., HERING in SEITZ 10.

Limacocera gen. n. for *Narosa pachycera* Hmpsn. p. 674, *hel* sp. n. Kwangtung p. 675, HERING t.c.

Limalolasia gen. n., *dubiosa* (type) China, *ruficollaris* Sikkim, spp. n. p. 698, HERING t.c.

Limacontia gen. n., *olivacea* sp. n. Solomon Is. p. 719 fig., HERING t.c.

Limacarina gen. n. p. 685, *liparina* (type) New Guinea, *mediopunctata* Fiji spp. n. p. 686, HERING t.c.

Limacosilla gen. n. p. 703, *pirifera* sp. n. Borneo, Sumatra p. 704, HERING t.c.

Liparolasia gen. n., *bifasciata* sp. n. Khasis p. 717, HERING t.c.

Macroplectrina gen. n., *curvipalpis* (type) Assam p. 717, *platycera*, *aspergillata*, *dentilinea* Khasis p. 718, spp. n. figs., HERING t.c.

Mambara robiginosa, *conspicua* New Guinea, *rosselensis* Rossel I. spp. n. p. 681, HERING t.c.

Mambarilla gen. n., *spatulifimbria* (type), *narosides* spp. n. India p. 685, HERING t.c.

Mambarona gen. n. for *Susica congrua* Wlk. (type) (with subsp. n. *florensis* Flores, *timorensis* Timor), *murex* sp. n. New Guinea p. 685, HERING t.c.

Microcampa suzuki Japan, *coreana* Korea, spp. n. p. 108 figs., MATSUMURA Ins. mats. 5.

Micropectra gigantea, *hamata* China, *flavina* Sambawa, *parasina* Borneo, *pulverulenta* p. 716, *fumipennis* p. 717 Khasis, spp. n. figs., HERING in SEITZ 10.

Miresa decedens subsp. n. *lancensis*; *aspera* Ceylon, *burmensis* Burma p. 682, *exigua* Naga Hills, *sibinoides* India p. 683, *incredibilis*, *fuscidorsalis* New Guinea p. 684 spp. n.; *argentifera* subsp. n. *kwangtungensis* China p. 683, HERING t.c.—*M. crispa* and others see *Iragoides*; *castaneipars* see *Chalcoscelides*.

Monema melli China, *tenebricosa* India, spp. n. p. 691, HERING t.c.

Nagodopsis gen. n., *shirakiana* sp. n. Formosa p. 103 fig., MATSUMURA Ins. mats. 5.

Narosia nitobei sp. n. Formosa p. 394 [English description], SHIRAKI Spec. Rep. Formosa Agric. Expt. Sta. 8 1913.—*N. edoensis* larva, pupa pp. 209–214 figs. [in Japanese], KAWADA Kontyû, Tokyo 4 1930.—*N. ochracea* Kwangtung p. 675, *ambigua*, *niveipennis* Khasis, *nigricristata* Formosa, *rufifascia* p. 676, *pectinata* p. 677 New Guinea, spp. n., HERING in SEITZ 10.—*N. formosana* distinguished from *nigrisigna* p. 106, MATSUMURA Ins. mats. 5.—*N. rufotessellata* see *Arbelarosa*; *pachycera* see *Limacocera*.

Narosoides apicipennis sp. n. Formosa p. 101 fig., MATSUMURA t.c.

Natada griseimargo sp. n. Burma p. 715 fig., HERING in SEITZ 10.

Natarosa gen. n. for *Altha subrosea* Wil. p. 715, HERING t.c.

Neiraga gen. n., *baibarana* sp. n. Formosa p. 102 fig., MATSUMURA Ins. mats. 5.

Nervicompressa tenebricosa New Guinea p. 673, HERING in SEITZ 10.

Nirmides gen. n. for *Susica basalis* Wlk. (with f. n. *fusca* Malacca), *luzonensis* Luzon sp. n. p. 702, HERING t.c.

Oxyplax tenebrosa sp. n. Ceylon p. 719 fig., HERING t.c.

Parasa dnopthera sp. n. N. Queensland p. 333, TURNER Proc. Linn. Soc. N.S.W. 56.—*P. notonecta*, *convexa* p. 695, *grandis*, *dulcis* p. 696, *melli* p. 697 China, *canangae* Malaya, Sikkim, *angustivittata* Ceylon p. 693, *argyroneura* (with f. n. *fumosana*) India p. 696, *sagittata* Burma, *brevipennis* Queensland p. 697, *neustria* New Guinea p. 698, spp. n.; *pastoralis* subsp. n. *tonkinensis* Tonkin p. 696, HERING in SEITZ 10.

Parasoides gen. n. for *Tetraphleps paroa* Trnr. (type), *neurocausta* Trnr. p. 684; *albicollaris* sp. n. Australia p. 685, HERING t.c.

Phrixolepia nobilis see *Iragoides*.

Pinzulenza gen. n., *kukisch* sp. n. New Guinea p. 678, HERING t.c.

Praesetora gen. n. for *Setora divergens* Mr. (with subsp. n. *albitermina* Malaya, *kwangtungensis* China) p. 711 figs., HERING t.c.

Praesusica gen. n. for *Susica place-rodes* Trnr. p. 705, HERING t.c.

Pseudaltha gen. n. p. 681, *atramentifera* sp. n. India p. 682, HERING t.c.

Pseudanapaea gen. n. for *Anapaea denotata* Wlk. (type); *dentifascia*, *transvestita* spp. n. Australia p. 681, HERING t.c.

Pseudidonauton gen. n., *admirabile* sp. n. Malay Penin. p. 705 fig., HERING t.c.

Pygmaeomorpha rotundata, *aenea*, *crassilinea*, *nigrisignum* New Guinea, *flavula* Solomons p. 687, *binocularis* Bougainville p. 688, spp. n., HERING t.c.

Rhamnopsis gen. n. p. 102, *arizanelia* sp. n. Formosa p. 101 fig., MATSUMURA Ins. mats. 5.

Rhamnosa uniformis subsp. n. *rufina*; *angulata* subsp. n. *kwantungensis* China; *convergens* Burma sp. n. p. 679, HERING in SEITZ 10.

Scopelodes venosa subsp. n. *kwantungensis*, f. n. *brunnea* China; *testacea* subsp. n. *malayana* Malaya, f. n. *nigricans* Sumatra; *exigua* subsp. n. *niassica* Nias; *tantula* subsp. n. *melli* China; *albipalpalis* Borneo p. 689. *magnifica* (with f. n. *nigrescens*) Celebes, *lutea* Java p. 690, spp. n., HERING t.c.

Semyra albipunctata sp. n. Darjiling p. 717 fig., HERING t.c.

Setora suberecta (with subsp. n. *kwangtungensis*) China p. 710, *tamsi* Borneo p. 711, spp. n. figs., HERING t.c.—*S. divergens* see *Praesetora*.

Spatulifimbria castaneiceps subsp. n. *insolita* Ceylon, *opprimata* India p. 719, HERING in SEITZ 10.

Susica malayana Sumatra, Borneo, Malacca, p. 706, *nigrifascia* Sumatra, *pygmaea* Burma, *hyphorma* China p. 707, spp. n. figs., HERING t.c.—*S. taivania* sp. n. Formosa p. 401 [English description], SHIRAKI Spec. Rep. Formosa Agric. Expt. Sta. 8 1913.—*S. placerodes* see *Praesusica*; *basalis* see *Nirmides*; *congrua* see *Mambarona*.

Tetraphleps paroa, *neurocausta* see *Parasioidea*.

Thosea asigna early stages pp. 224–225 fig., VAN EECHE Zool. Meded. 13 1930.—*T. magna* p. 711, *separata*, *grandis* Khasis p. 714, *curvinervis* New Guinea p. 712, *caliginosa* Amboina p. 712, *obliquistrica* Cochinchina, *curristriga*, *bisuiroides* China, *lateritia* Penang, *discipunctata* Bandora, *imitabilis* p. 713, *flavina* India, *interrupta*, *erectistriga* Ceylon p. 714, *plumbea* p. 715 spp. n.; *sinensis* subsp. n. *borneensis* Borneo; *monolocha* ff. n. *nigrifasciata*, *nigribasis*, New Guinea p. 712 figs., HERING in SEITZ 10.—*T. suigensis* Korea, *nitobeana* Japan, *baibarana* Formosa, spp. n. p. 107 figs., MATSUMURA Ins. mats. 5.—*T. threnopsis* sp. n. N. Queensland p. 334, TURNER Proc. Linn. Soc. N.S.W. 56.—*T. bicolor* sp. n. Formosa p. 406 [English description], SHIRAKI Spec. Rep. Formosa Agric. Expt. Sta. 8 1913.

Thoseoides gen. n., *fasciata* sp. n. Formosa p. 391 [English descriptions], SHIRAKI t.c.

Trichogyia microleon p. 700, *nigrimargo* p. 701, spp. n. India, HERING in SEITZ 10.

DALCERIDAE.

Coamorpha gen. n. for *Dalcera innoxia* p. 14, DYAR in DYAR & STRAND Lep. Cat. 16 1913.

Dalcera innoxia see *Coamorpha*.

CASTNIIDAE.

Argentine Castniidae, BREYER Rev. Soc. ent. argent. 3 pp. 232–238, 1 pl.

Castnia boisduvali f. n. *interrupta* Brazil p. 461 fig., SPITZ Rev. Mus. paul. 17.—*C. boyi* p. 391, *atrata* p. 392, spp. n. Peru figs., RÖBER Int. ent. Z. 24.

ZYGAENIDAE (HETEROGYNIDIDAE).

Notes on Zygaenids of German Alps, KIEFER Int. ent. Z. 24 pp. 501–503.

Catalogue of Palaearctic Zygaenidae (concluded), REISS in SEITZ Suppl. 2 pp. 49–50, 1 pl.

Catalogue of Heterogynididae, STRAND Lep. Cat. 28 1923 pp. 11–14.

Araecocera prasina sp. n. Java p. 277 fig., JORDAN Novit. zool. 36.

Himantopterus dohertyi life-history p. 68, FLETCHER Proc. Ent. Soc. Lond. 5.

Ino chloras new to Germany p. 294, HAEGER Int. ent. Z., Guben 25.

Pedoptila ubangiana sp. n. French W. Africa p. 144 fig., SCHULTZE Iris 45.

Procris levantina sp. n. Syria p. 277 figs., JORDAN Novit. zool. 36.

Zygaena list of spp. in Berlin district pp. 89–96, *purpuralis* ff. n. *pimpinellae* p. 89, *aurantiaca*, *brunescens* p. 90; *trifolii* ff. n. *tripuncta*, *incarnata* p. 91; *filipendulae* ff. n. *sarothamni*, *purpuraloidea* p. 92, *pseudotutti*; *meliloti* f. n. *quadrinaculata* p. 94; *achilleae* f. n. *pseudotristis* p. 95; *carniolica* f. *pseudomoderata* f. n. *rosea*, f. *pseudocarniolica* f. n. *rosea*; c. ff. n. *rubricosta*, *pseudoleonhardi* p. 96 Germany, GÜHN Ent. Jahrb. 41.—*Z.* spp. biology p. 393, KIEFER Int. ent. Z. 24.—*Z. clorinda* larva p. 23, genitalia, wings pp. 25–27, GEOSVENOR & HEWER Ent. Rec. 43.—*Z. verrina* ff. n. *pseudomoderata*, *pseudoonobrychis* Germany p. 400, HANNEMANN Int. ent. Z. 24.—*Z. carniolica* morphology of Moravian races p. 433, HOLIK Int. ent. Z. 24.—*Z. laeta* & ff. biology, morphology pp. 1–4; *epialtes* morphology of principal ff. pp. 5–7, 9–11, 17–19, 21–23 figs., STERZL Z. Ver. Naturbeobach. 6.—*Z. transalpina alpina* ab. n. *paradoxa* Bavaria p. 261 fig., MICHALK Int. ent. Z. 25.—*Z. simonyi* sp. n. S. Arabia p. 360, REBEL Anz. Akad. Wiss. Wien 36 1899.—*Z. aurata* subsp. n. *blachieri* Morocco p. 199, ROTHSCHILD Novit. zool. 36.—*Z. laeta* occurrence in Austria pp. 83–84, BERGER Z. öst. EntVer. 16.—*Z. punctum* ab. n. *pseudodystrepta*;

achilleae macedonica var. n. *caliacrensis* p. 97, abb. n. *confluens*, *cingulata*; *carniolica onobrychis* var. n. *caliacrae* p. 98, abb. n. *securigera*, *laticlavaria*, *rubroabdominalis*, *azona* p. 99 Rumania; *scabiosae nevadensis* ab. n. *scabiosoides* Portugal, var. n. *falleriana* p. 111, subsp. n. *schmidtii* p. 112 Spain; *purpuralis* var. n. *caledonensis*; *lydia* subsp. n. *hadjinensis* Asia Minor p. 342; *meliloti* var. n. *anglica* England p. 344; *achilleae* subsp. n. *caledonica* p. 341; *filipendulae* var. n. *lismorica* p. 345 Scotland; *niphona christophi* abb. n. *quinquemaculata*, *confluens* Japan p. 357, var. n. *coreana* Korea, f. n. *pseudo-christophi* no locality p. 358 figs., REISS Int. ent. Z. 25.

DREPANIDAE.

Catalogue of Drepanidae of the World, GAEDE Lep. Cat. 49 60 pp.

Drepana falcataria biology in captivity pp. 251-261, 265-267, AUE Ent. Anz. 11.—*D. griseola* sp. n. Japan p. 135 fig., MATSUMURA Thous. Ins. Japan Suppl. 1 1908.

Oreta theae sp. n. Japan p. 134 figs., MATSUMURA t.c.

THYRIDIDAE.

Betousa stylophora life-history p. 68, FLETCHER Proc. Ent. Soc. Lond. 5.

Rhodoneura myrtaea biology pp. 117-120, 144-148, 158-161, 173-176 figs., FRANSSEN Natuurh. Maandbl. 20.

PYRALIDAE.

Notes on larvae of Phycids of the French fauna, appendix, CHÉRIEN Amat. Papil. 5 pp. 161-165, 3 figs.

Contribution towards a study of the Epipaschiinae, JANSE Trans. Ent. Soc. Lond. 79 pp. 439-492, 11 pls. 3 figs.

Endotrichinae of Japan, SHIBUYA Ins. mats. 5 pp. 161-170.

Acentropus niveus biology p. 74, WOJTUSIAK Polsk. Pismo ent. 10.

Adelosemia fartakensis sp. n. S. Arabia p. 109, REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Aglossa furva sp. n. Br. Columbia p. 5 figs., HEINRICH Proc. U.S. Nat. Mus. 29 no. 2879.

Ambesa cartera sp. n. Philippines p. 207, WEST Novit. zool. 36.

Ambia pedionoma sp. n. Philippines p. 213, WEST t.c.

Ancylosis flamella distribution, distinguished from *cinnamomella* pp. 223-226 figs., FILIPJEV Annu. Mus. zool. Acad. Leningrad 31 1930.

Anerastia bicolor sp. n. Italy p. 148, TURATI Boll. Soc. ent. ital. 63.

Argyria trizona sp. n. Assam p. 114, MEYRICK Exot. Micr. 4.

Aspithra see *Ernophthora*.

Aulacodes simplex, *splendens* spp. n. Philippines p. 214, WEST Novit. zool. 36.

Cacozelia see *Jocara*.

Calomacalla gen. n. for *Macalla meta-chryseis* Hmps. p. 467 fig., JANSE Trans. Ent. Soc. Lond. 79.

Capparidia gen. n. (Pyraustinae) p. 21, *ghardaialis* sp. n. N. Africa p. 22 figs., DUMONT Bull. Soc. ent. Fr. 1931.

Ceroprepes jansei sp. n. Japan p. 208, WEST Novit. zool. 36.

Chilo simplex effects of temperature on development pp. 177-207, 208-220 figs., HARUKAWA, TAKATO & KUMASHIRO Ber. Ohara Inst. 5; duration of larval instars pp. 236-242, KATSUMATA J. Plant Prot. 18.

Chloropaschia granitalis Feld. (= *Stericta contortilinealis* Dogn., *Macalla rufilinea* Druce) p. 471 figs., JANSE Trans. Ent. Soc. Lond. 79.

Citripestis sagittiferella biology pp. 7-15 figs., PAGDEN Sci. Ser. Dept. Agric. S.S. & F.M.S. no. 7.

Coenodomus hampsoni sp. n. Philippines p. 209, WEST Novit. zool. 36.

Corcyra brunnea sp. n. Formosa p. 206, WEST t.c.

Crambus genitalia of some spp. p. 28, *similimellus* pp. 33, 38 (with f. n. *umbrosellus* p. 38), *mauretanicus* p. 36 (with ff. n. *ambustellus*, *major* p. 37) spp. n. no localities fig., MÜLLER-RUTZ Mitt. schweiz. ent. Ges. 15.—*C. matri-cellus* var. n. *obscurus* p. 47; *contuminel-lus* ab. n. *fumosellus* p. 51 Rumania, CARADJA Mem. Sect. Stiint. Acad. Romāna (3) 7 no. 8.—*C. radicivittus* p. 10, *monotonus* p. 11, *trimarginipunc-tus* p. 13, spp. n. Minussinsk, FILIPJEV Jahrb. Martj. Staatsmus. Minussinsk 5 1927.—*C. shichito* sp. n. Japan in

pp. 26-40 fig. [in Japanese and English], MARUMO Oyo-Dobuts. Zasshi 3.—*C. paludellus* ab. n. *durandi* Vendée p. 95, LUCAS Bull. Soc. ent. Fr. 1931.—*C. myellus* ab. n. *unimaculellus* Sweden p. 53, BRUNDIN K. sven. Vet. Skrift. Natursk. 16.

Craneophora Christ. good gen. p. 473, JANSE Trans. Ent. Soc. Lond. 79.

Creobota gen. n. (Phycitinae) p. 342, *coccophthora* sp. n. Australia p. 343, TURNER Proc. Linn. Soc. N.S.W. 56.

Diatraea Guild. revision of American spp. pp. 1-47, key p. 12 (= *Trinidadia* Dyar, *Iesta* Dyar) p. 11, *argentina* Argentina p. 18, *brunneus* Venezuela p. 29, *incertella* Brazil p. 30, *luteella* Ecuador p. 32, *suffusella* Fr. Guiana p. 33, *albicrinella* Br. Guiana, Peru, Ecuador, Brazil p. 34, *amazonica* Brazil, Argentina p. 36, *rufescens* Bolivia p. 37, *enteriana* Argentina p. 39, *flavipennella* Brazil p. 42 spp. n.; *crambidoides* Grt. (= *zeacolella* Dyar, *tripsacicola* Dyar) p. 20; *gaga* Dyar (= *solipsa* Dyar) p. 22; *saccharalis* F. (= *incomparella* Dyar & Heinr.) p. 23; *indigenella* p. 27, *continens* p. 31 re-descriptions; *impersonatella* Wlk. (= *morella* Dyar & Heinr.) p. 41 figs., Box Bull. Ent. Res. 22.—*D. considerata* sp. n. Mexico p. 3; *busckella* var. n. *rosa* Venezuela p. 4 figs., HEINRICH Proc. U.S. Nat. Mus. 79 no. 2879.—*D. endothermalis* see *Xanthopherne*.

Dichrocrocis liparalis, *acoluthalis* spp. n. Philippines p. 216, WEST Novit. zool. 36.

Diloxia euteles sp. n. Philippines p. 213, WEST t.c.

Diptychophora azanalis Wlk. (= *parvalis* Wlk., *kuhlweini* Zell.); *leucanthes* Peru, *felix* p. 108, *excitata* Brazil, *examinialis* (also Brazil) p. 109, *cnemioptila* Br. Guiana, *melistoma* China, *microcyma* Queensland p. 110, *xanthogramma* Malaya, *aeolocnemis* New Guinea, *praemialis* Fiji p. 111, *equestris* Assam, *rusticula* Coorg p. 112, *immitis* Burma, *ochrophanes* p. 113, *mitis* p. 114 Assam, spp. n., MEYRICK Exot. Micr. 4.

Endotricha wilemani sp. n. Philippines p. 212, WEST Novit. zool. 36.

Ephestia vitivora sp. n. Transcaucasia p. 70 figs., FILIPJEV Iris 45.—*E. personata* sp. n. Bokhara p. 23, GERASIMOV

Annu. Mus. zool. Acad. Leningrad 31 1930.—*E. laetella* sp. n. Sokotra I. p. 105, REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.—*E. kühniella* effects of desiccation on development p. 79 fig., SFEICHER Proc. Penn. Acad. Sci. 5; embryology pp. 533-598 figs., SEHL Z. Morph. Oekol. Tiere 20.

Epilepia gen. n. for *Macalla melanosparsalis* Jan. (type) (= *confusa* Jan.), *melanobrunnea* Jan.; *simulata* sp. n. W. Africa p. 466 figs., JANSE Trans. Ent. Soc. Lond. 79.

Epipaschia Clem. good gen. p. 467, zelleri Gr. from *Mochlocera* p. 468 figs., JANSE t.c.

Epischnia haghienensis Sokotra I. p. 106, *eremicella* Aden p. 107, spp. n., REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Ernophthora Meyr. (= *Aspithra* Rag., *Mimistis* Hmps.), *phoenicis* Meyr. (= *actiosoides* Hmps.) type p. 116, MEYRICK Exot. Micr. 4.—*E. milicha* sp. n. Queensland p. 342, TURNER Proc. Linn. Soc. N.S.W. 56.

Evergestis occidentalis sp. n. Morocco p. 148 fig., DE JOANNIS Bull. Soc. Sci. nat. Maroc 10; larva, biology pp. 150-152 figs., BOUCHELIER & DE LÉPINEY t.c.—*E. appendiculata* sp. n. Minussinsk p. 17, FILIPJEV Jahrb. Martj. Staatsmus. Minussinsk 5 1927.

Eudorea x-signata sp. n. Minussinsk p. 16, FILIPJEV t.c.

Euzophora bigella morphology pp. 180-182 figs. [in Russian], GERASIMOV Rev. russe Ent. 24 1930.

Hendecasis apiciferalis see *Neohendecasis*.

Homoeosoma ischnomorpha sp. n. New Zealand p. 94, MEYRICK Trans. Proc. N.Z. Inst. 62.—*H. parvum* sp. n. Bokhara p. 23 fig., GERASIMOV Annu. Mus. zool. Acad. Leningrad 31 1930.—*H. vagella* biology pp. 333-337 figs., COTTIER N.Z. J. Agric. 42.

Hypargyria impecuniosa sp. n. Java p. 160, MEYRICK Exot. Micr. 4.

Hypochalcia delineata sp. n. Minussinsk p. 15, FILIPJEV Jahrb. Martj. Staatsmus. Minussinsk 5 1927.

Iesta see *Diatraea*.

Jocara Wlk. (= *Cacozelia* Gr.) p. 450 ; *albimedialis* Hmps. from *Pococera* p. 445 figs., JANSE Trans. Ent. Soc. Lond. 79.—*J. argentilinea*, *rufiapicalis* see *Milgithea*.

Lacalma gen. n. for *Macalla porphyralis* Kenr. (type), *argenteorubra* Hmps., *albirufalis* Hmps., *papuensis* Warr. p. 464 figs., JANSE Trans. Ent. Soc. Lond. 79.

Lamida Wlk. good gen. p. 459, *mediobarbalis* Hmps., *sordidalis* Hmps. from *Macalla* p. 460 ; *burusensis* sp. n. Buru p. 461 figs., JANSE t.c.

Lamoria anella var. n. *insulana* Corsica p. 56, SCHAWERDA Z. öst. Ent. Ver. 16.

Leptosphetta Butl. good gen. p. 475, JANSE Trans. Ent. Soc. Lond. 79.

Leucinodes orbinialis new to Belgian Congo p. 131, GHESQUIÈRE Bull. Ann. Soc. ent. Belg. 71.

Locasta atriplagalis see *Polylophota*.

Loryma socotrensensis sp. n. Sokotra I. p. 110, REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Loxostege concoloralis subsp. n. *subtilis* Minussinsk p. 18, FILIPJEV Jahrb. Martj. Staatsmus. Minussinsk 5 1927.—*L. sticticalis* biology Bulgaria 1929–30 pp. 31–48, DRENSKI Mitt. bulgar. ent. Ges. 6 ; bionomics 171 pp. fig., ZVEROZOMB ZUBOVSKIĭ et al. Kiev, Pub. Ukraine Sci. Inv. Inst. Sugar Ind. 1931.

Macalla shibuyai sp. n. Philippines p. 208, WEST Novit. zool. 36.—*M. medio-barbalis*, *sordidalis* see *Lamida* ; *picta* see *Teliphasa* ; *porphyralis*, *argenteorubra*, *albirufalis*, *papuensis* see *Lacalma* ; *melanosparsalis*, *melanobrunnea* see *Epilepia* ; *metachryseis* see *Calomacalla* ; *rufilinea* see *Chloropaschia granitalis*.

Metrea ostreonalis larval notes p. 50, McDUNNOUGH Canad. Ent. 63.

Milgithea argentilinea Druce, *rufiapicalis* Hmps. from *Jocara* p. 451, JANSE Trans. Ent. Soc. Lond. 79.

Mimistis see *Ernophthora*.

Mochlocera zelleri see *Epipaschia*.

Mysticomima gen. n. (Pyraustinae), *desmoteria* sp. n. Costa Rica p. 115, MEYRICK Exot. Micr. 4.

Neohendecasis gen. n. for *Hendecasis apiciferalis* Wlk. p. 168, SHIBUYA Ins. mats. 5.

Neopaschia further description p. 441 figs., JANSE Trans. Ent. Soc. Lond. 79.

Nephoptyx eudaemonella sp. n. Aden p. 108, REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Noorda aeanalis sp. n. Philippines p. 218, WEST Novit. zool. 36.

Oligochroa tsherenkovi sp. n. Bokhara p. 24 fig., GERASIMOV Annu. Mus. zool. Acad. Leningrad 31 1930.

Oneida Hulst. good gen. p. 442, JANSE Trans. Ent. Soc. Lond. 79.

Orthaga basalis Moore from *Pannucha jucundalis* Wlk. from *Stericta* p. 477 figs., JANSE t.c.—*O. meyricki*, *durranti* spp. n. Philippines p. 211, WEST Novit. zool. 36.

Orthoraphis paula sp. n. Philippines p. 212, WEST t.c.

Pannucha basalis see *Orthaga*.

Parasarama conjuncta see *Termioptycha*.

Parastericta gen. n. (Epipaschiinae), *lanata* sp. n. Buru, New Guinea p. 486 figs., JANSE Trans. Ent. Soc. Lond. 79.

Pempelia baea sp. n. Philippines p. 206, WEST Novit. zool. 36.

Phlyctaenia ferrugalis effect of temperature on feeding and development pp. 52–54, FILINGER J. Econ. Ent. 24.

Phostria jansei sp. n. Philippines p. 215, WEST Novit. zool. 36.

Phycita southi sp. n. Formosa p. 207, WEST t.c.

Pionea forficalis bionomics pp. 200–207 figs., MILES North Western Nat. 6.—*P. fulvalis* subsp. n. *orientalis* Minussinsk p. 18, FILIPJEV Jahrb. Martj. Staatsmus. Minussinsk 5 1927.

Platytes acaudatula sp. n. Minussinsk p. 14, FILIPJEV t.c.—*P. aenigmatica* sp. n. Colorado p. 4 fig., HEINRICH Proc. U.S. Nat. Mus. 79 no. 2879.

Plodia interpunctella biology 26 pp. fig., HAMLIN, REED & PHILLIPS Tech. Bull. U.S. Dept. Agric. 242.

Plumiphora gen. n. (Epipaschiinae), *pratti* sp. n. Sumatra p. 485 figs., JANSE Trans. Ent. Soc. Lond. 79.

Pococera metaxanthalis generic status discussed p. 446, JANSE t.c.—*P. albimendialis* see *Jocara*.

Polopeustis annulatella new to Finland p. 76, HELLÉN Mem. Soc. Fauna fenn. 5 (1928–29) 1930.

Polylophota senilis sp. n. New Guinea p. 479; *atriplagalis* Hmps. from *Locastra* p. 480 figs., JANSE Trans. Ent. Soc. Lond. 79.

Pseudomegasis gen. n. (Phycitinae) p. 162, *gabalitella* sp. n. France p. 164 figs., CHRÉTIEN Amat. Papil. 5.

Pyralis perversalis var. n. *rubigine-tincta* Rumania p. 40, CARADJA Mem. Sect. Stiint. Acad. Romăna (3) 7 no. 8.—*P. callista* sp. n. Philippines p. 212, WEST Novit. zool. 36.

Pyrausta homoeides p. 218, *crichophora* p. 219, spp. n. Philippines, WEST t.c.—*P. ainsliei* bionomics Kansas pp. 25–38, SCHOPP J. Kansas Ent. Soc. 4.—*P. nubilalis* factors affecting hatching of eggs pp. 99–102 graph, SPRINGER Proc. Penn. Acad. Sci. 4 1929; biology pp. 335–338 graph, FIGHT Proc. Indiana Acad. Sci., Indianapolis 40.

Ramilla thetopetina sp. n. Philippines p. 207, WEST Novit. zool. 36.

Rhynchopaschia further description p. 481, *reducta* sp. n. S. Africa p. 482 figs., JANSE Trans. Ent. Soc. Lond. 79.

Sarama Moore good gen. p. 475, JANSE t.c.

Scoparia eutacta, *niphelodes* spp. n. Queensland p. 343, TURNER Proc. Linn. Soc. N.S.W. 56.—*S. crucigera* sp. n. Bokhara p. 26 fig., GERASIMOV Annu. Mus. zool. Acad. Leningrad 31 1930.—*S. ustiramis* sp. n. New Zealand p. 95, MEYRICK Trans. Proc. N.Z. Inst. 62.—*S. contexta* sp. n. New Zealand p. 28; *gyrotoma* Meyr. (= *repercussa* Philp.) p. 29, PHILPOTT Trans. N.Z. Inst. 62.

Stericta caradjai p. 209, *schausi*, *plinthochroa* p. 210, spp. n. Philippines, WEST Novit. zool. 36.—*S. jucundalis* see *Orthaga*; *contortilinealis* see *Chloropaschia granitalis*.

Sylepta lygropialis, *elegans*, *macallalis* spp. n. Philippines p. 217, WEST Novit. zool. 36.

Taeniophora further description p. 480 figs., JANSE Trans. Ent. Soc. Lond. 79.

Tancoa schausi Santo Domingo p. 447, *sinuata* Honduras p. 448, spp. n. figs., JANSE t.c.

Tatobotys tanyscia sp. n. Philippines p. 215, WEST Novit. zool. 36.

Tauroscopa glaucophanes see *Tawhitia*.

Tawhitia gen. n. for *Tauroscopa glaucophanes* Meyr. p. 26, *leonina* sp. n. New Zealand p. 28 fig., PHILPOTT Trans. N.Z. Inst. 62.

Teliphasa Moore good gen. p. 462, *picta* Warr. from *Macalla* p. 463 figs., JANSE Trans. Ent. Soc. Lond. 79.

Termioptycha conjuncta Warr. from *Parasarama*; *aurantiaca* sp. n. New Guinea p. 455 figs., JANSE t.c.

Tetralopha Zell. good gen. p. 445, JANSE t.c.

Titanoceros Meyr. good gen. p. 452, JANSE t.c.

Trichophysetis cretacea Butl. further description; *neophyla* Meyr. distinct p. 159, MEYRICK Exot. Micr. 4.

Trinidadia see *Diatraea*.

Xanthopherne revision of American spp. pp. 47–50, key, *heinrichi* Peru p. 48, *bimaculata* Peru, Venezuela p. 49 spp. n.; *endothermalis* Hamp. from *Diatraea* p. 50 figs., Box Bull. Ent. Res. 22.

PTEROPHORIDAE (ALUCITIDAE).

Catalogue of Indian Alucitidae (Pterophoridae), FLETCHER Govt. India Centr. Pubn. Br. 1931 iv + 61 pp.

Adaina naiadopa sp. n. Paraguayan Chaco p. 277, MEYRICK J. Linn. Soc. Lond. 37 Zool.

Agdistis staticis in Britain further description pp. 84–87 figs., BLAIR; pp. 87–89, TAMS Ent. Mon. Mag. 67.

Alucita ebalensis sp. n. Aden p. 114, REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Amblyptilia stenoptiloides sp. n. Minussinsk p. 19, FILIPJEV Jahrb. Martj. Staatsmus. Minussinsk 5 1927.

Deuterocopus socotranus sp. n. Sokotra I. p. 115 fig., REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Marasmarcha samarcandica sp. n. Bokhara p. 27 fig., GERASIMOV Annu. Mus. zool. Acad. Leningrad 31 1930.

Platyptilia semnopis sp. n. Brazil p. 176, MEYRICK Exot. Micr. 4.—*P. camptosphenia* Chile, *eutalanta* Argentina, spp. n. p. 379, MEYRICK An. Mus. Hist. nat. B. Aires 36.

Pterophorus grandaevus sp. n. Chile p. 380, MEYRICK t.c.—*P. eparches* sp. n. Uganda p. 176, MEYRICK Exot. Micr. 4.

Stenoptilia partiseca sp. n. Argentina p. 380, MEYRICK An. Mus. H. n. B. Aires 36.—*S. trigonometra* sp. n. Paraguayan Chaco p. 277, MEYRICK J. Linn. Soc. Lond. 37 Zool.

Trichoptilus subtilis sp. n. Aden p. 114, REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

AGERIIDAE (SESIIDAE).

List of Aegeriidae from Japan, MATSUMURA Ins. mats. 6 pp. 9-12.

Aegeria exitiosa biology pp. 851-854, BUTLER J. Econ. Ent. 24.—*A. pistarcha* Morocco, *mercatrix*, *leptomorpha* Uganda spp. n. p. 50, MEYRICK Exot. Micr. 4.

Agriomelissa gen. n., *gypsospora* sp. n. Uganda p. 51, MEYRICK t.c.

Chamanthedon coreacola sp. n. Korea p. 1012 fig. [in Japanese], MATSUMURA 6000 Illus. Ins. Japan 1931; description in English p. 5, MATSUMURA Ins. mats. 6.

Conopia chibensis Japan, *chosensis*, *galloisi* Korea, *mushana* Formosa, *producta*, *quercus* Japan p. 1014, spp. n. figs. [in Japanese], MATSUMURA 6000 Ill. Ins. Japan 1931; further descriptions in English except for *quercus* pp. 5-6, MATSUMURA Ins. mats. 6.

Eublepharis see *Leuthneria*.

Lenyra simonyi Rbl. from *Melittia* p. 102 fig., REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Leuthneria n. n. for *Eublepharis* Feld. non Gray nec Solier p. 149, DALLA TORRE in DALLA TORRE & STRAND Lep. Cat. 31 1925.

Melittia satyriniformis biology pp. 587-596 figs., FRIEND Bull. Connecticut Agric. Expt. Sta. 328.—*M. simonyi* sp. n. S. Arabia p. 361, REBEL Anz. Akad. Wiss. Wien 36 1899.—See *Lenyra*.

Nokona subgen. n. see *Paranthrene*.

Paranthrene daisensis, *hirayamai* p. 1016 (*Nokona* subgen. n.), *yezonica* p. 1017, spp. n. Japan figs. [in Japanese],

MATSUMURA 6000 Illus. Ins. Japan 1931; descriptions in English p. 7, MATSUMURA Ins. mats. 6.

Scasiba gen. n., *taikanensis* sp. n. Formosa p. 1017 fig. [in Japanese], MATSUMURA 6000 Ill. Ins. Japan 1931; descriptions in English p. 8, MATSUMURA Ins. mats. 6.

Sciapteron pygmaeum sp. n. S. Arabia p. 360, REBEL Anz. Akad. Wiss. Wien 36 1899.

Sesia spp. biology pp. 21-24, HEDDERGOTT Int. ent. Z. 25.

Spherodoptera okinawana sp. n. Japan p. 1017 fig. [in Japanese], MATSUMURA 6000 Ill. Ins. Japan 1931; description in English p. 8, MATSUMURA Ins. mats. 6.

Tipulomima aristura sp. n. Uganda p. 49, MEYRICK Exot. Micr. 4.

Zenodorus shakojianus Korea, *taivanellus* Formosa, spp. n. p. 1018 figs. [in Japanese], MATSUMURA 6000 Ill. Ins. Japan 1931; descriptions in English pp. 8-9, MATSUMURA Ins. mats. 6.

TINEIDAE (s.l.).

Tineidae from the Paraguayan Chaco, MEYRICK Mitt. münchn. ent. Ges. 21 pp. 37-40.

List of Nepticulidae with distribution in Europe, SKALA Ent. Anz. 11 pp. 206-209, 275 etc.

Acrocercops euthycolona p. 46, *synclinias* p. 47, *brachyglypta*, *globulifera* p. 48 Java, *siphonaula* Sierra Leone, *undifraga* Haiti p. 47, *dissotoma* p. 168, *zopherandra* p. 169, *irradians* p. 170 India, *transecta* Japan p. 169 spp. n.; *psaliacma* Meyr. emended from *paliacma* p. 168; *leucophaea*, *tenera* further descriptions p. 169, MEYRICK Exot. Micr. 4.

Acrolepia assectella f. n. *obscura* Italy p. 98, Rocci Boll. Soc. ent. ital. 63.—*A. xiphias* p. 401, *chalcolumpra*, *chariphanes* Chile, *seraphica* p. 402, *mixotropa*, *niphosperma* p. 403, *halosema* p. 404 Argentina, spp. n., MEYRICK An. Mus. B. Aires 36.

Acrolophus farracea, *psammophila*, *pinnifera* p. 100, *suspensilis*, *dictyopsamma* p. 101, *vespertilio*, *latiberbis*, *morbidula* p. 102, *baryspila*, *pannephela*, *albipennis* p. 103, spp. n. Brazil, MEYRICK Exot. Micr. 4.—*A. cyclophora* p. 283, *leucotricha*, *monoctenis* p. 284,

spp. n. Paraguayan Chaco, MEYRICK J. Linn. Soc. Lond. 37 Zool.—*A. cervicolor*, *diachelota* *spp. n.* Argentina p. 39, MEYRICK Mitt. münchn. ent. Ges. 21.

Adela rufifrontella new to Finland p. 76, HELLÉN Mem. Soc. Fauna fenn. 5 (1928-29) 1930.—*A. rebeliella* *ab. n. albidofasciella* Austria p. (19), PREISSECKER Verh. zool.-bot. Ges. Wien 81.

Aeolanthus haematopa, *erebomicta* *spp. n.* China p. 73, MEYRICK in CARADJA Bull. Acad. Roumaine 14.

Agriophara salinaria *sp. n.* Solomon Is. p. 43, MEYRICK Exot. Micr. 4.

Agriotorna *gen. n.* (Oecophoridae), *ericonista* *sp. n.* Brazil p. 188, MEYRICK t.c.

Anarsia pinnata *sp. n.* Kamerun p. 69, MEYRICK t.c.—*A. longipalpellis* *sp. n.* Abd el Kûri I. p. 124, REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Anchimacheta see *Spiladarcha*.

Antispila chlorosema *sp. n.* Chile p. 397, MEYRICK An. Mus. B. Aires 36.—*A. orthodelta* *sp. n.* Brazil p. 186, MEYRICK Exot. Micr. 4.

Apethistis purificata *sp. n.* Sikkim p. 85, MEYRICK t.c.

Aphanostola (*gen. n.* (Gelechiidae) p. 56, *atripalpis* (type) India, *sparsipalpis* Ceylon *spp. n.* p. 57, MEYRICK t.c.

Archyala culta *sp. n.* New Zealand p. 35, PHILPOTT Trans. N.Z. Inst. 62.

Argyresthia chionochochrysa *sp. n.* Tibet p. 92, MEYRICK Exot. Micr. 4.

Aristotelia callyntrophora *sp. n.* S. Arabia p. 361, REBEL Anz. Akad. Wiss. Wien 36 1899.—*A. pentameris* *sp. n.* China p. 66, MEYRICK Bull. Acad. Roumaine 14.—*A. tribulivora* p. 149, *imperatoria* p. 151, *spp. n.* N. Africa figs., DUMONT Bull. Soc. ent. Fr. 1931.

Asaphocrita *gen. n.* (Blastobasidae), *prototypica* *sp. n.* New Mexico, Texas p. 178, MEYRICK Exot. Micr. 4.

Ascalenia centropselia, *gastrocosma* *spp. n.* India p. 54, MEYRICK t.c.—*A. vanelloides* *sp. n.* Bokhara p. 38 fig., GERASIMOV Annu. Mus. zool. Acad. Leningrad 31 1930.

Atachia pigerella systematic and morphological notes pp. 223-227, DE JOANNIS Bull. Soc. ent. Fr. 1931.

Atteva cosmogona *sp. n.* Brazil p. 87, MEYRICK Exot. Micr. 4.

Autosticha ansata *sp. n.* India p. 85, MEYRICK t.c.

Auximobasis incretata *sp. n.* Peru p. 177, MEYRICK t.c.

Auxotricha *gen. n.* (Oecophoridae) p. 189, *ochrogypsa* *sp. n.* Peru p. 190, MEYRICK t.c.

Batrachedra atriloqua *sp. n.* Fiji p. 56, MEYRICK t.c.

Battaristis tricentrotro *sp. n.* Brazil p. 64, MEYRICK t.c.

Bedellia spectrodes *sp. n.* India p. 163, MEYRICK t.c.

Blastobasis coenomorpha Canada, *indigesta* S. Rhodesia p. 177, *chloroptris* Malaya, *nephelophaea* Formosa p. 178, *spp. n.*, MEYRICK t.c.

Borkhausenia gypsozyga *sp. n.* Corsica p. 118, MEYRICK t.c.—*B. rhodosema*, *xanthosema* Chile p. 390, *praesul* (also Chile) p. 391, *longipalpis*, *syrmensis* p. 392 Argentina, *spp. n.*, MEYRICK An. Mus. B. Aires 36.—*B. comosaris* *sp. n.* New Zealand p. 95, MEYRICK Trans. Proc. N.Z. Inst. 62.

Brachmia triannulella *var. n. cinerea* Rumania p. 48, CARADJA Mem. Sect. Stiint. Acad. Romăna (3) 7 no. 8.—*B. elaeophanes*, *quassata* *sp. n.* China p. 70, MEYRICK Bull. Acad. Roumaine 14.—*B. orthomastix* Kenya, *stactopis* Assam, *tholeromicta* Sierra Leone, *spp. n.* p. 84, MEYRICK Exot. Micr. 4.

Brachypsaltis *gen. n.* (Gelechiidae), *subalbata* *sp. n.* Argentina p. 58, MEYRICK t.c.

Brenthia chrysosperma Brazil, *dicentrotro* Uganda, *spp. n.* p. 183, MEYRICK t.c.

Bryotropha angustipennis *sp. n.* Spain p. 58, REBEL Z. öst. EntVer. 16.

Bucculatrix ulmifoliae *sp. n.* Germany p. 529, HERING Z. PflKrankh. 41.—*B. ruficoma* Uganda p. 163, *xanthophylla* Sierra Leone p. 164, *spp. n.*, MEYRICK Exot. Micr. 4.—*B. laciniatella* *sp. n.* Oeland Is. (Sweden) p. 50 fig., BENANDER Z. wiss. InsektBiol. 26.

Calliathla *gen. n.* (Plutellidae), *peplophanes* *sp. n.* Argentina p. 405, MEYRICK An. Mus. B. Aires 36.

Carposina sasakii life-history 28 pp. figs. [in Japanese], TOYOSHIMA Aomori

Agric. Expt. Sta., Results Agric. Expts no. 26.—*C. marginata* sp. n. New Zealand p. 33, PHILPOTT Trans. N.Z. Inst. 62.

Casmara agronoma sp. n. China p. 71, MEYRICK Bull. Acad. Roumaine 14.

Catelaphris biplagata sp. n. New Guinea p. 69, MEYRICK Exot. Micr. 4.

Caulastrocecis gen. n. for *Xystophora gypsella* Cst. p. 295, key to allied genn. p. 311 figs., CHRÉTIEN Amat. Papillons 5.

Cecidoses characters, *eremita* re-description p. 91, MEYRICK Exot. Micr. 4.

Cemistoma monostigma sp. n. Bokhara p. 44 fig., GERASIMOV Annu. Mus. zool. Acad. Leningrad 31 1930.

Ceromitia eremarcha sp. n. Paraguay p. 179, MEYRICK Exot. Micr. 4.—*C. ilyodes* sp. n. Argentina p. 414, MEYRICK An. Mus. B. Aires 36.

Chalconympha gen. n. (Plutellidae), *eurypepla* sp. n. Argentina p. 401, MEYRICK t.c.

Charadraula gen. n. (Oecophoridae), *chersopsamma* sp. n. Palestine p. 124, MEYRICK Exot. Micr. 4.

Charitopsycha gen. n. (Lamproniidae), *sublucens* sp. n. Vladivostok p. 160, MEYRICK t.c.

Chelaria sorograptia Sudest I., *tephroptila* India, *stasimodes* Portuguese E. Africa p. 70, *disposita* Brazil spp. n.; *stictocosma* Meyr. (= *levata* Meyr.) p. 71, MEYRICK t.c.—*C. saxigera*, *praemaculata* spp. n. China p. 67, MEYRICK Bull. Acad. Roumaine 14.

Choreutis micalis status discussed p. 29, *chodzhajevi* sp. n. Bokhara p. 30 figs., GERASIMOV Annu. Mus. zool. Acad. Leningrad 31 1930.

Cladodes dilutiterminella sp. n. Bokhara p. 33 fig., GERASIMOV t.c.

Coconympha gen. n. (Gelechiidae) p. 65, *iriarcha* sp. n. Malabar p. 66, MEYRICK Exot. Micr. 4.

Coleophora enchorda India, *lasiiocharis* Turkestan, spp. n. p. 180, MEYRICK t.c.—*C. leucostoma* p. 39, *rebeli*, *denigrella* p. 40, spp. n. Bokhara figs., GERASIMOV Annu. Mus. zool. Acad. Leningrad 31 1930.—*C. zymotica* sp. n. Paraguayan Chaco p. 283, MEYRICK J.

Linn. Soc. Lond. 37 Zool.—*C. caliacraella* sp. n. Rumania p. 39, CARADJA Mem. Sect. Stiint. Acad. Romăna (3) 7 no. 8.

Colonophora logistica sp. n. Argentina p. 387, MEYRICK An. Mus. B. Aires 36.

Compsolechia aequilibris sp. n. Brazil p. 65, MEYRICK Exot. Micr. 4.

Coriscium walsinghami sp. n. Sokotra I. p. 128 fig., REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.—*C. eximipalpella* sp. n. Bokhara p. 42 fig., GERASIMOV Annu. Mus. zool. Acad. Leningrad 31 1930.

Cosmopteryx parietariae sp. n. Mediterranean p. 68 figs., HERING Mitt. deuts. ent. Ges. 2.

Crocantes monodesma, *xanthistia*, *platycitra* p. 73, *hecuba*, *geniola*, *cleomorphia* p. 74, *thermocharis*, *phaeograptia* p. 75, spp. n. New Guinea, MEYRICK Exot. Micr. 4.

Cryptolechia pateropa Brazil, *melicoma* Sierra Leone, *nyctiphronas* Bengal p. 125, *pelophaea* Formosa p. 192, spp. n., MEYRICK t.c.—*C. scariphista* Chile, *eucharistis*, *ghischrodes* p. 396, *orphnaea* p. 397 Argentina, spp. n., MEYRICK An. Mus. B. Aires 36.

Crypsimaga gen. n. (Gelechiidae), *cyanoceptra* sp. n. Br. New Guinea p. 66, MEYRICK Exot. Micr. 4.

Crypsithyris psolocoma Pusa, *phere-tropa* Assam, spp. n. p. 105, MEYRICK t.c.

Otenocompa myriopleura sp. n. Kamerun p. 99, MEYRICK t.c.

Cymotricha tetrascema India p. 67, *inspiciens* Paraguay, *phaeosarca* Kamerun, *tephroxesta* Sikkim p. 68, spp. n., MEYRICK t.c.—*C. antiloxa* sp. n. China p. 68, MEYRICK Bull. Acad. Roumaine 14.

Decadarchis scorpiura Malaya, *melanostrophia* Bombay, *citrogramma* p. 165, *dissepta* Fiji, *atrivivis*, *sphenoschista* Japan p. 168, spp. n., MEYRICK Exot. Micr. 4.

Depressaria propinquella (with ab. n. minor Belgium p. 47) biology pp. 48–50, DUFRANE Lambillionea 31.—*D. metamelopa* sp. n. China p. 180, MEYRICK Bull. Acad. Roumaine 14.—*D. ammitis* sp. n. Argentina p. 393, MEYRICK An. Mus. B. Aires 36.—*D. niphosyrphas* sp. n. S. Ussuri p. 120, MEYRICK Exot. Micr. 4.

Dichomeris dolichaula sp. n. Kamerun p. 67, MEYRICK t.c.

Donacostola gen. n. for *Euprionocera notabilis* Philp. p. 97, MEYRICK Trans. Proc. N.Z. Inst. 62.

Elachista stellata sp. n. New Zealand p. 31, PHILPOTT Trans. N.Z. Inst. 62.—*E. confirmata* sp. n. India p. 91, MEYRICK Exot. Micr. 4.—*E. lacustris* see *Scythris epistrola*.

Emmochlista gen. n. (Tineidae), *claviformis* sp. n. N. Andaman I. p. 106, MEYRICK Exot. Micr. 4.

Epermenia anthracoptila sp. n. Japan p. 161, MEYRICK t.c.

Epicephala spenitis sp. n. India p. 168, MEYRICK t.c.

Epiclostis leptorthra sp. n. China p. 74, MEYRICK Bull. Acad. Roumaine 14.

Epimarptis isoloxa sp. n. Assam p. 161, MEYRICK Exot. Micr. 4.

Epimesophleps gen. n. (Gelechiidae), *symmocella* sp. n. Sokotra I. p. 125 fig., REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Eretmocera shoabensis sp. n. Sokotra I. p. 126, REBEL t.c.

Ethmia cellicoma Paraguay p. 89, *xanthopleura* Corea p. 174, spp. n., MEYRICK Exot. Micr. 4.

Eucleodora cocae sp. n. Peru p. 60 figs., BUSCK Proc. Ent. Soc. Wash. 33.

Eulechria increta sp. n. W. China p. 187, MEYRICK Exot. Micr. 4.

Euprionocera notabilis see *Donacostola*.

Eutorna polismatica sp. n. Japan p. 191, MEYRICK Exot. Micr. 4.

Exosphrantis gen. n. (Oecophoridae), *bibula* sp. n. Argentina p. 389, MEYRICK An. Mus. B. Aires 36.

Gelechia icriodes Chile, *crypticopa*, *clopica* p. 384, *goniospila* p. 385 Argentina, spp. n., MEYRICK t.c.—*G. dryosyrta* Sikkim, *camptogramma* p. 58, *speculifera* U.S.A., *paroxynta*, *epistolica* Tibet p. 59, *repetitrix* Turkey, *delapsa* Brazil, *ophiula* Argentina p. 60, *melitophanes* Palestine p. 85, spp. n., MEYRICK Exot. Micr. 4.—*G. eurybathra* sp. n. New Zealand p. 368, MEYRICK Rec. Canterbury Mus. 3.—*G. retamaefoliella* sp. n. S. Tunisia p. 148, DUMONT Bull. Soc. ent. Fr. 1931.—*G. bastuliella* Spain p. 57 16, *dellabeffai* Austrian Alps

p. 1 17, spp. n. fig., REBEL Z. öst. EntVer.—*G. spirodoxa*, *pertinens*, spp. n. Paraguayan Chaco p. 279, MEYRICK J. Linn. Soc. Lond. 37 Zool.

Glyphidocera trachyacma sp. n. Paraguayan Chaco p. 281, MEYRICK t.c.

Glyphipteryx stasichlora sp. n. Peru p. 184, MEYRICK Exot. Micr. 4.

Gnathotoma gen. n. (Oecophoridae), *thermopsamma* sp. n. Paraguay p. 124, MEYRICK t.c.

Gnorimoschema Busck (= *Phthorimaea* Meyr.) p. 60, *tuberosella* sp. n. Peru p. 59 figs., BUSCK Proc. Ent. Soc. Wash. 33.

Gracilaria impictipennella sp. n. Bokhara p. 42, GERASIMOV Annu. Mus. zool. Acad. Leningrad 31 1930.—*G. elongella* L. (= *inconstans* Staint.) p. 238; *betulicola* Her. discussed p. 235 figs., FILIPJEV C.R. Acad. Sci. U.R.S.S. (A) 1931.—*G. pyrrhaspis* sp. n. China p. 75, MEYRICK Bull. Acad. Roumaine 14.—*G. trissochroa* India p. 48, *heterocosma* Assam p. 170, *anthracosperma* Japan p. 171, spp. n., MEYRICK Exot. Micr. 4.

Graphicoptila gen. n. (Tineidae), *pemphigodes* sp. n. Pusa p. 97, MEYRICK t.c.

Gymnobathra aurata sp. n. New Zealand p. 33, PHILPOTT Trans. N.Z. Inst. 62.—*G. zephyrana* see *Tinea belonota*.

Habrophylax gen. n. (Oecophoridae), *chalcocitha* sp. n. Brazil p. 123, MEYRICK Exot. Micr. 4.

Halimarmara gen. n. (Oecophoridae), *atrivallata* sp. n. Brazil, Peru p. 190, MEYRICK t.c.

Hapsifera petaloxantha, *arsiptila* Kamerun p. 98, *heptazona* Sierra Leone p. 107, spp. n., MEYRICK t.c.

Harpella semnodoxa sp. n. Chile p. 392, MEYRICK An. Mus. B. Aires 36.

Heterodmeta gen. n. (Oecophoridae), *homomorpha* sp. n. Japan p. 188, MEYRICK Exot. Micr. 4.

Hierodryas gen. n. (Hyponomeutidae), *eriochiras* sp. n. Assam p. 88, MEYRICK t.c.

Homaledra sabalella post-embryonic development of digestive system pp. 45-107 figs., GRAY Ann. Ent. Soc. Amer. 24.

Homalopsycha agglutinata sp. n. S. Ussuri p. 96, MEYRICK Exot. Micr. 4.

Homalozestis subpallida Kamerun p. 76, *hemigastra* Uganda p. 77, spp. n., MEYRICK t.c.—*H. liochlaena* sp. n. China p. 68, MEYRICK Bull. Acad. Roumaine 14.

Horomeristis gen. n. (Oecophoridae), *calyocentra* sp. n. Peru p. 187, MEYRICK Exot. Micr. 4.

Hypercallia captans Brazil, *pyrocausta* Colombia, *dryocrypta* Guatemala spp. n. p. 121, MEYRICK t.c.

Hyperecta acmodeta sp. n. Burma p. 64, MEYRICK Exot. Micr. 4.

Hyponomeuta stenodoxa India, *antistatica* Java p. 87, *refrigerata*, *elementaris*, *trachydelta* Japan p. 172, spp. n., MEYRICK t.c.—*H. padellus* biological races pp. 489–492, THORPE J. Linn. Soc. Lond. Zool. 37.—*H. cognatellus*, *padellus malinellus* status discussed pp. 246–253, FIORI Boll. Lab. Ent. Bologna 3 1930.—*H. padellus* pp. 255–282, *cognatellus* pp. 282–288, *vigintipunctatus* pp. 288–299, morphology, biology figs., SERVADEI Boll. Lab. Ent. Bologna 3 1930.—*H. evonymellus* biology pp. 149–152, BORTHWICK Scot. Nat., Edinburgh no. 191.

Hypophrictoides dolichoderella larval case p. 1, VAN DER MEER MOHR Misc. zool. sumat. 56.

Idiophantis thiopeda Br. New Guinea p. 63, *acanthopa* India p. 64 spp. n., MEYRICK Exot. Micr. 4.

Imma infima ♂; *nipharcha* Brazil p. 180, *miniograptia* Peru, *confluens*, Brazil, Fr. Guiana, Venezuela, *euglypta* p. 181, *leniflua* p. 182 Colombia, spp. n., MEYRICK t.c.

Iphimachaera gen. n. (Gelechiidae), *decapitata* sp. n. Brazil p. 83, MEYRICK t.c.

Iscnophenax gen. n. (Oecophoridae) p. 125, *streblospis* sp. n. India p. 126, MEYRICK t.c.

Izatha mesoschista sp. n. New Zealand; *balanophora* Meyr. (= *milligana* Philp.) p. 96, MEYRICK Trans. Proc. N.Z. Inst. 62.

Kiwaia further description, *jeanae* ♀ p. 367, MEYRICK Rec. Canterbury Mus. 3.

Labdia aphanogramma p. 51, *gastroptila* p. 52, spp. n. India, MEYRICK Exot. Micr. 4.

Lampronia heliocephala, *dicommatias* spp. n. Chile p. 414, MEYRICK An. Mus. B. Aires 36.

Lasiochira gen. n. (Oecophoridae), *camaropa* sp. n. China p. 71, MEYRICK Bull. Acad. Roumaine 14.

Lecithocera phaeodryas p. 68, *tylobathra*, *pelomorpha* p. 69, spp. n. China, MEYRICK t.c.—*L. zopheropis*, *niphomitra* p. 78, *crossophaea* p. 80, *nyctiphron* p. 81, *chlorobapta* p. 82 Sikkim, *thioclora*, *choleroleuca* p. 79, *ianthodes* p. 80, *caveiformis* p. 82 India, *symptomata* Burma p. 79, *monobyrssa*, *corythaeola* Uganda p. 80, *staurophora*, *strepsicrena* Br. New Guinea p. 81, spp. n., MEYRICK Exot. Micr. 4.

Leptocroca aquilonaris p. 31, *lenita* p. 32 spp. n. New Zealand, PHILPOTT Trans. N.Z. Inst. 62.—*L. xyrias* sp. n. New Zealand p. 368, MEYRICK Rec. Canterbury Mus. 3.

Limnoecia pentachrysis Java, *tetramitra* Borneo, spp. n. p. 54, MEYRICK Exot. Micr. 4.

Lindera onychias Brazil p. 96, *gypsocoma* Fr. Guinea p. 106, spp. n., MEYRICK t.c.

Lithocolletis populi n. n. for *populiella* Fil. nec Chamb. p. 73, FILIPJEV Iris 45.—*L. malella* p. 125, *fainae* p. 128, *pruinoseella* p. 130 spp. n.; *corylifoliella* subsp. n. *turanica* p. 127; *connexella* subsp. n. *asiatica* p. 130 Central Asia figs., GERASIMOV Ent. Z. 45.—*L. eophanes* p. 46, *iochrysis* p. 167, spp. n. India, MEYRICK Exot. Micr. 4.

Lyonetia myura, *retroflexa* spp. n. Peru p. 163, MEYRICK t.c.

Macarocosma gen. n. (Oecophoridae), *philochrysa* sp. n. Chile p. 393, MEYRICK An. Mus. B. Aires 36.

Machaerocrates gen. n. (Heliodinidae) p. 175, *tunicata* sp. n. Paraguay p. 176, MEYRICK Exot. Micr. 4.

Machaeropteris euthysana sp. n. Sierra Leone p. 98, MEYRICK t.c.

Machimia helobia sp. n. Paraguayan Chaco p. 381, MEYRICK J. Linn. Soc. Lond. 37 Zool.—*M. oxybela*, *aethostola* Brazil, *pyrrhozanthia* Fr. Guiana p. 119, *diagrapha* Paraguay p. 120, spp. n., MEYRICK Exot. Micr. 4.

Macrobathra hamata sp. n. Bombay p. 116, MEYRICK t.c.

Macrocirca gen. n. (Hyponomeutidae), *strabo* sp. n. Argentina p. 38, MEYRICK Mitt. münchn. ent. Ges. 21.

Macrocrystis gen. n. (Coleophoridae), *byrsostola* sp. n. India p. 49, MEYRICK Exot. Micr. 4.

Melasina autochthonia India, *xanthocrana* Uganda, spp. n. p. 104, MEYRICK t.c.

Meleonoma pardalis sp. n. W. China p. 191, MEYRICK t.c.

Merocrates gen. n. (Gelechiidae), *themelis* sp. n. Br. New Guinea p. 52, MEYRICK t.c.

Metanarsia (*Parametanarsia* subgen. n.) p. 33 fig., GERASIMOV Annu. Mus. zool. Acad. Leningrad 31 1930.

Mompha sympotica p. 387, *constellaris* Chile, *conviva* p. 388, *exodias* p. 389 Argentina, spp. n., MEYRICK An. Mus. B. Aires 36.

Monachozela gen. n. (Heliozelidae), *neoleuca* sp. n. Brazil p. 185, MEYRICK Exot. Micr. 4.

Monopis artasyras Tibet, *coniodina* p. 93, *hypopiasta* p. 94 Kamerun, spp. n., MEYRICK t.c.

Myrmecozela philoptica sp. n. Kenya p. 95, MEYRICK t.c.

Mythoplastis chalcocentra sp. n. Brazil p. 98, MEYRICK t.c.

Narycia berecynthia Pusa, *psammogona* Madagascar, spp. n. p. 99, MEYRICK t.c.

Nematochares gen. n. (Gelechiidae) p. 82, *citrulax* sp. n. Brazil p. 83, MEYRICK t.c.

Nepticula spp. food-plants in Austria pp. 6-8, 16 etc., MITTERBERGER Ent. Rdsch. 48.—*N. ulmifoliae* sp. n. Germany p. 531, HERING Z. PflKrankh. 41.—*N. hylomaga* sp. n. Argentina p. 415, MEYRICK An. Mus. B. Aires 36.

Nestorellus gen. n. (Gelechiidae), *meyricki* sp. n. Bokhara p. 35 figs., GERASIMOV Annu. Mus. zool. Acad. Leningrad 31 1930.

Ocytola chionoxantha sp. n. Japan p. 188, MEYRICK Exot. Micr. 4.

Odites xenophaea, *choricopa* spp. n. China p. 74, MEYRICK Bull. Acad. Roumaine 14.

Oinophila argyrospora sp. n. Sierra Leone p. 164, MEYRICK Exot. Micr. 4.

Opogona succulenta Andaman Is., *zygodonta* Madras, *pelinoma* Peru, spp. n. p. 164, MEYRICK t.c.—*O. tamsi* sp. n. Bokhara p. 44 fig., GERASIMOV Annu. Mus. zool. Acad. Leningrad 31 1930.

Opostega angulata sp. n. Bokhara p. 45, GERASIMOV t.c.—*O. monosperma* sp. n. Brazil p. 162, MEYRICK Exot. Micr. 4.

Orneodes loxoschista sp. n. Uganda p. 86, MEYRICK t.c.—*O. nannodactyla* sp. n. Sokotra I. p. 117, REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Ornix morphology, biology of spp. in Steyr, Austria pp. 22-25, 29-31, MITTERBERGER Z. öst. EntVer. 16.

Orthenches disparilis sp. n. New Zealand; *chartularia* Meyr. (= *nivalis* Philp.) p. 34; *similis* Philp. distinct sp. p. 35, PHILPOTT Trans. N.Z. Inst. 62.—*O. osteacma*, *semicretata* Argentina, *clytandra* p. 406, *dissimulatrix* p. 407, Chile, spp. n., MEYRICK An. Mus. B. Aires 36.

Palaeomystis gen. n. (Cosmopterygidae), *chalcopeda* sp. n. Brazil p. 55, MEYRICK Exot. Micr. 4.

Parametanarsia subgen. n. see *Metanarsia*.

Paramorpha heptacentra sp. n. New Zealand p. 96, MEYRICK Trans. Proc. N.Z. Inst. 62.

Parectopa rotigera sp. n. Chile p. 400, MEYRICK An. Mus. B. Aires 36.

Periacma asaphochra, *coniozantha* spp. n. Formosa p. 192, MEYRICK Exot. Micr. 4.—*P. grammocrossa* sp. n. China p. 72, MEYRICK Bull. Acad. Roumaine 14.

Perisceptis gen. n. (Hyponomeutidae) *horiarcha* sp. n. Paraguayan Chaco p. 283, MEYRICK J. Linn. Soc. Lond. 37 Zool.

Petalostoma gen. n. (Oecophoridae), *lygrodes* sp. n. Assam p. 123, MEYRICK Exot. Micr. 4.

Petalothyrsa gen. n. (Epermeniidae), *microphthalma* sp. n. Brazil p. 162, MEYRICK t.c.

Peucoteles gen. n. (Gelechiidae), *herpestica* sp. n. Assam p. 57, MEYRICK t.c.

Philobota syntropa sp. n. Formosa p. 189, MEYRICK t.c.

Philomusaea gen. n. (Oecophoridae), *craterias* (type) p. 394, *elissa*, *incommoda* Argentina, *brachyrista* Chile p. 395, spp. n., MEYRICK An. Mus. B. Aires 36.

Pholcobates gen. n. (Oecophoridae) *flagelliformis* sp. n. Brazil p. 122, MEYRICK Exot. Micr. 4.

Phricogenes gen. n. (Gelechiidae) p. 71, *sophronopa* sp. n. New Guinea p. 72, MEYRICK t.c.

Phrixosceles hyperbolacma sp. n. Japan p. 167, MEYRICK t.c.

Phthorimaea aganophthalma Tibet p. 61, *interjuncta* Brazil p. 62, spp. n., MEYRICK t.c.—*P. ardeola*, *isochlora* spp. n. Paraguayan Chaco p. 280, MEYRICK J. Linn. Soc. Lond. 37 Zool.—*P. stiroides* p. 385, *laciniosa* p. 386, spp. n. Argentina, MEYRICK An. Mus. B. Aires 36.—See *Gnorimoschema*.

Phycodes superbella sp. n. S. Arabia p. 119 figs., REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Phyllocnistis citrella biology pp. 1–5 figs., CLAUSEN Tech. Bull. U.S. Dept. Agric. 252.—*P. pachyscia* sp. n. Japan p. 167, MEYRICK Exot. Micr. 4.

Placoptila choromima sp. n. Java p. 174, MEYRICK Exot. Micr. 4.

Platyedra cunctatrix Uganda, *piceicoma* Kamerun, spp. n. p. 61, MEYRICK t.c.—*P. (Pectinophora) gossypiella* hibernation Texas pp. 1197–1207 figs., FENTON & OWEN J. Econ. Ent. 24.

Plutella diluta p. 407, *deltodoma* p. 409 Chile, *acrodelta*, *nephelaegis* p. 408, *culminata* p. 409 Argentina, spp. n., MEYRICK An. Mus. B. Aires 36.

Prays endocarpa biology pp. 1–7 figs., PAGDEN Sci. Ser. Dept. Agric. S.S. & F.M.S. no. 7.

Prochola holomorpha sp. n. Paraguayan Chaco p. 282, MEYRICK J. Linn. Soc. Lond. 37 Zool.

Promalactis lunisequa Java, *pyrochalcia* Japan, spp. n. p. 186, MEYRICK Exot. Micr. 4.

Promenesta citroscla sp. n. Brazil p. 46, MEYRICK t.c.

Proteodes clarkei ♀ p. 33, PHILPOTT Trans. N.Z. Inst. 62.

Protocryptis gen. n. (Douglasiidae) *obducta* sp. n. Japan p. 161, MEYRICK Exot. Micr. 4.

Prymnatomis gen. n. (Orneodidae), *crypticroca* sp. n. Brazil p. 86, MEYRICK t.c.

Psecadia pusiella varr. n. *ardosiella*, *orientella* Rumania p. 48, CARADJA Mem. Sect. Stiint. Acad. Romăna (3) 7 no. 8.—*P. tamaridella* sp. n. Sokotra I. p. 126, REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Psorosticha xylinopis sp. n. China p. 72, MEYRICK Bull. Acad. Roumaine 14.

Ptilogenes rhomaeopa p. 43, *glaeomorpha* p. 44, *metamochla* Brazil, *chionosphena* p. 45, *stelogypta* p. 44 Fr. Guiana, spp. n., MEYRICK Exot. Micr. 4.

Ptilothyris climacista ♂ p. 83, MEYRICK t.c.

Pyramidobela epibryas Brazil p. 88, *tetraphyta* Mexico p. 174, spp. n., MEYRICK t.c.—*P. compulsa* sp. n. Chile p. 399, MEYRICK An. Mus. B. Aires 36.

Pyroderces dactyliota, *centropecta* spp. n. Malaya p. 52, MEYRICK Exot. Micr. 4.

Recurvaria insequens sp. n. Brazil p. 56, MEYRICK t.c.

Rhabdocrates gen. n. (Glyphyterygidae) p. 183, *sporomantis* sp. n. Peru p. 184, MEYRICK t.c.

Rhadinastis melitocosma sp. n. India p. 55, MEYRICK t.c.

Sagephora subcarinata sp. n. New Zealand p. 96, MEYRICK Trans. Proc. N.Z. Inst. 62.

Sarisophora praecentrix Br. New Guinea, *agorastis* Sikkim, spp. n. p. 78, MEYRICK Exot. Micr. 4.

Scaeosopha citrocampa, *albicellata* spp. n. Brazil p. 118, MEYRICK t.c.

Scaeastrepta gen. n. (Gelechiidae), *geranoptera* sp. n. Dutch New Guinea p. 77, MEYRICK t.c.

Scardia boleti in Normandy p. 97, DALIBERT Bull. Soc. Sci. nat. Rouen (7) 64-65 1930.

Schiffermuelleria heptalitha sp. n. Japan p. 186, MEYRICK Exot. Micr. 4.

Scythris lamprochalca Uganda, *zeugmatica* Brazil, *xylinochra* India, spp. n. p. 179, MEYRICK t.c.—*S. epistrotia* Meyr. (= *Elachista lacustris* Philp.); *niphozela* sp. n. New Zealand p. 369, MEYRICK Rec. Canterbury Mus. 3.—*S. dimota*, *depressa*, *plocogastra* spp. n. Paraguayan Chaco p. 282, MEYRICK J. Linn. Soc. Lond. 37 Zool.—*S. schawerdae* sp. n. Corsica p. 20, REBEL in SCHAWERDA Z. öst. EntVer. 16.—*S. nigra* sp. n. New Zealand p. 31, PHILPOTT Trans. N.Z. Inst. 62.—*S. lativittis* sp. n. Bokhara p. 37 fig., GERASIMOV Annu. Mus. zool. Acad. Leningrad 31 1930.

Sematopsis gen. n. (Cosmopterygidae), *amphilychna* sp. n. Chile p. 386, MEYRICK An. Mus. B. Aires 36.

Simaethis melophaga sp. n. India p. 182, MEYRICK Exot. Micr. 4.

Sphalerostola argobela sp. n. Br. New Guinea p. 45, MEYRICK t.c.

Spiladarcha Meyr. (= *Anchimacheta* Wals.), further description, *derelicta* Meyr. synonymy p. 173, MEYRICK t.c.

Stasiphron gen. n. (Hyponomeutidae) p. 171, *cryptomorpha* sp. n. India p. 172, MEYRICK t.c.

Stathmopoda conioima Java, *opticaspis* Japan, *xanthodesma* Fiji, spp. n. p. 175, MEYRICK t.c.—*S. endotherma* sp. n. New Zealand p. 368, MEYRICK Rec. Canterbury Mus. 3.—*S. albidorsis* sp. n. China p. 75, MEYRICK Bull. Acad. Roumaine 14.—*S. albimaculata* sp. n. New Zealand p. 33, PHILPOTT Trans. N.Z. Inst. 62.

Stegasta scoteropis sp. n. Paraguayan Chaco p. 280, MEYRICK J. Linn. Soc. Lond. 37 Zool.

Stenoma deuteropa sp. n. Paraguayan Chaco p. 281, MEYRICK t.c.—*S. algidella* life-history pp. 1208-1213 figs., FROST J. Econ. Ent. 24.—*S. hydrelaeas* p. 33, *arridens* p. 36, *stephanodes* p. 42 Fr. Guiana, *zobeida* Mexico, *pyroathra* p. 33, *sciophthalma*, *patellifera*, *argocorys* p. 34, *spodinopis*, *psalmographa* p. 35, *perjecta*, *cyphoxantha* p. 36, *capnocomma*

p. 37, *herbacea*, *trirecta* p. 38, *phaselodes*, *bathyntis* p. 39, *involucralis*, *obovata*, *xylograpta* p. 40, *xanthopetala*, *nymphotima* p. 41, *citrophaea* p. 42 Brazil, *anophthalma* p. 36, *triacmopa*, *heteroxantha* p. 37, *gypsolitha* p. 38 Paraguay, *omphacopa* p. 39, *chalinophanes* p. 42 Bolivia, *uranophanes* Colombia p. 41, spp. n., MEYRICK Exot. Micr. 4.

Stereodmeta gen. n. (Gelechiidae), *xylodeta* sp. n. Brazil p. 65, MEYRICK t.c.

Stereoptila diaphanta sp. n. India p. 91, MEYRICK t.c.—*S. digressa* sp. n. China p. 70, MEYRICK Bull. Acad. Roumaine 14.

Stomopteryx sphenodoxa sp. n. India p. 63, MEYRICK Exot. Micr. 4.

Stromatitica gen. n. (Cosmopterygidae), *chrysanthos* sp. n. Solomon Is. p. 53, MEYRICK t.c.

Strophalingias gen. n. (Cosmopterygidae), *allactica* sp. n. Sikkim p. 53, MEYRICK t.c.

Symmoca epenthetica Sikkim, *vetusta* Brazil, spp. n. p. 72, MEYRICK t.c.

Synactias gen. n. (Gelechiidae), *micranthis* sp. n. Paraguayan Chaco p. 278, MEYRICK J. Linn. Soc. Lond. 37 Zool.

Syncerastis gen. n. (Tineidae), *ptisanopa* sp. n. Chile p. 410, MEYRICK An. Mus. B. Aires 36.

Talaeporia guenei Zell. a var. of *tubulosa* Retz. pp. 243-246, BENTINCK Ent. Ber., Putten 8.

Tanaoctena dubia sp. n. New Zealand p. 34, PHILPOTT Trans. N.Z. Inst. 62.

Taruda haemoplecta sp. n. Brazil p. 122, MEYRICK Exot. Micr. 4.

Teleia triparella ab. n. *griseella* Austria p. (18), PREISSECKER Verh. zool.-bot. Ges. Wien 81.

Telephila indicata sp. n. Solomon Is. p. 67, MEYRICK Exot. Micr. 4.

Telphusa penetratrix sp. n. Paraguayan Chaco p. 279, MEYRICK J. Linn. Soc. Lond. 37 Zool.

Tetanostola gen. n. (Plutellidae), *hexagona* sp. n. Madagascar p. 92, MEYRICK Exot. Micr. 4.

Thalassonympha gen. n. (Plutellidae)
p. 404, *mysteriodes* sp. n. Argentina p.
405, MEYRICK An. Mus. B. Aires 36.

Themeliotis procremna sp. n. New
Guinea p. 99, MEYRICK Exot. Micr. 4.

Thiotricha gemmulans sp. n. India
p. 63, MEYRICK t.c.

Thubana leucosphena sp. n. China
p. 69, MEYRICK Bull. Acad. Roumaine
14.

Tinea nigrofasciata sp. n. Formosa
p. 324 [English description], SHIRAKI
Spec. Rep. Formosa Agric. Expt. Sta. 8
1913.—*T. echinastrea* p. 94, *diplobola*
India, *antidroma* Java, *latro* Tibet
p. 95, *immolata* Sikkim p. 105, *pastoralis*
Fr. Guinea p. 106 spp. n.; *fictrix* further
description p. 96, MEYRICK Exot. Micr.
4.—*T. conspecta* sp. n. New Zealand;
belonota Meyr. (= *Gymnobathra zephy-
rana* Clarke) p. 35, PHILPOTT Trans.
N.Z. Inst. 62.—*T. isodonta*, *gypsomicta*
p. 411, *prensoria* p. 412 Chile, *platysaris*
p. 411, *enchytopa* p. 412, *stimulatrix*,
horosema p. 413, *holocapna* p. 414
Argentina, spp. n., MEYRICK An. Mus.
B. Aires 36.—*T. texta* sp. n. New Zea-
land p. 97, MEYRICK Trans. Proc. N.Z.
Inst. 62.—*T. diplobola* see *Tineola*
dissociata.

Tineola marianii sp. n. Italy p. 151,
TURATI Boll. Soc. ent. ital. 63.—*T.*
biselliella length of adult life pp. 761-
764, GRISWOLD Ann. Ent. Soc. Amer.
24; digestion of ceratin p. 4, TIT-
SCHACK Zool. Anz. 93.—*T. atricoma*
sp. n. Madagascar p. 94; *dissociata*
Meyr. (= *Tinea diplobola* Meyr.) p. 105,
MEYRICK Exot. Micr. 4.

Tiquadra galactura, butyranthes spp. n.
Brazil p. 97, MEYRICK t.c.

Trachypepla polypleuca sp. n. New
Zealand p. 95, MEYRICK Trans. Proc.
N.Z. Inst. 62.—*T. minuta* sp. n. New
Zealand p. 33, PHILPOTT Trans. Proc.
N.Z. Inst. 62.

Trachytyla gen. n. (Tineidae), *rhizo-
phaga* sp. n. Pusa p. 107, MEYRICK Exot.
Micr. 4.

Trichembola idiarcha sp. n. Para-
guayan Chaco p. 278, MEYRICK J. Linn.
Soc. Lond. 37 Zool.

Trichotaphe atriguttata Paraguay p.
68, *anticrates* Brazil p. 69, spp. n.,
MEYRICK Exot. Micr. 4.

*Triclonella chionozona, diglypta, aglao-
gramma, cruciformis* spp. n. Brazil
p. 117, MEYRICK t.c.

Triptologa corrupta sp. n. New
Guinea p. 126, MEYRICK t.c.

Trypherogenes gen. n. (Gelechiidae),
chrysodesma sp. n. Celebes p. 76,
MEYRICK t.c.

Tyriozela gen. n. (Heliozelidae),
porphyrogona sp. n. Japan p. 185,
MEYRICK t.c.

Urodus triancycla Paraguay, *brachy-
anches* p. 89, *xiphura, hexacentris,*
fulminalis p. 90 Brazil, spp. n., MEYRICK
t.c.

Ussara olyranta sp. n. Brazil p. 184,
MEYRICK t.c.

Xyrosaris melanopsamma sp. n. Japan
p. 171, MEYRICK t.c.

Xystophora gypsella see *Caulastrocecis*.

Zelleria pistopis, cirrhoscia p. 398,
leucoschista p. 399, spp. n. Argentina,
MEYRICK An. Mus. B. Aires 36.

TORTRICIDAE. (s. l.)

Catalogue of Indian Phalonidae and
Chlidanotidae, FLETCHER Govt. India
Centr. Pubn. Branch iii + 15 pp.

Tortricidae of Poznań and Pomorze,
Poland, TOLL Polsk. Pismo ent. 10 pp.
59-68, 1 pl.

Acalla comariana variation pp. 195-
202, FRYER J. Genet. 24.

Acharneodes acrolophoides sp. n.
Brazil p. 128, MEYRICK Exot. Micr. 4.

Acleris caledoniana f. n. rufimaculana
Britain p. 77, SHELDON Entomologist
64.

Acroclita hapalaspis sp. n. Japan p.
144, MEYRICK Exot. Micr. 4.—*A.*
bryomorpha Brazil p. 126, *micror-
rhyncha* Indian N.W. Frontier p.
127, spp. n., MEYRICK t.c.

Amorbia chlorolyca, rectangularis spp.
n. Brazil p. 155, MEYRICK t.c.—*A.*
catenana further description p. 41, DA
COSTA LIMA Bol. biol. Rio de Janeiro
fasc. 18.

Anchylopera brauni sp. n. Ohio p. 11
fig., HEINRICH Proc. U.S. Nat. Mus. 79
no. 2879.

Ancyli anthracaspis sp. n. China p. 64, MEYRICK Bull. Acad. Roumaine 14.

Antichlidas gen. n. p. 65, holocnista sp. n. China p. 66, MEYRICK t.c.

Antictenistys phaedra sp. n. Brazil p. 142, MEYRICK Exot. Micr. 4.

Aphrozestis gen. n., *scoriopa* sp. n. Fiji p. 156, MEYRICK t.c.

Archips unimaculata p. 344, *citrinella* p. 346, *minor* p. 358, spp. n. Formosa [English descriptions], SHIRAKI Spec. Rep. Formosa Agric. Expt. Sta. 8 1913.

Argyroploce petromacha p. 128, *aristomorpha* p. 138 Sierra Leone, *phaecma*, *crossotoma* p. 129, *conchifera* p. 130, *turmaria*, *neolopha*, *spelaeodes* p. 131, *onychosema* p. 134, *limenosema*, *arctosceles* p. 136, *hydrargyra* p. 137, *rebellis* p. 140 Bismarck Is., *cassiterastr* Uganda p. 130, *haemostacta* p. 132, *hemigrapta*, *sideroxylla* p. 133, *plinthograpt* p. 135, *olenarcha* p. 136, *caryosema* p. 138 Formosa, *milichopis* p. 132, *orthocosma* p. 141 Japan, *carnicolor* p. 133, *mnioptyrrha* p. 134, *farra-ginea* Java, *torticornis* Trinidad p. 137, *intermissa*, *cyphophragma* Brazil, *hilaraspis* Assam p. 139, *albipalpis* China p. 140, spp. n.; *cellifera* Meyr. (= *codonectis* Meyr.) from *Polychrosis* p. 129, MEYRICK Exot. Micr. 4.—*A. eremodella*, *zonastra* spp. n. China p. 65, MEYRICK Bull. Acad. Roumaine 14.—*A. trinitana* sp. n. Canada p. 151 figs., McDUNNOUGH Canad. Ent. 63.

Arctophora balsamodes sp. n. Argentina, Chile p. 381, MEYRICK An. Mus. B. Aires 36.

Bactra geraropa sp. n. Formosa p. 147, MEYRICK Exot. Micr. 4.

Cacoecia aequiflexa Brazil, *paredraea* Formosa, spp. n. p. 149, MEYRICK t.c.

Capua leptophracta p. 147, *thiodyta* Brazil, *malacotorna* Formosa, *endocypha* Fiji p. 148, spp. n., MEYRICK t.c.—*C. alopecana* Meyr. from *Tortrix* p. 95, MEYRICK Trans. Proc. N.Z. Inst. 62.—*C. stereomorpha* sp. n. China p. 62, MEYRICK Bull. Acad. Roumaine 14.

Cnephasia periorma, *catenata* see *Taeniarchis*.

Collogenes gen. n. p. 141, *percno-phylla* sp. n. Bismarck Is. p. 142, MEYRICK Exot. Micr. 4.

Cydia pomonella life-history pp. 1137–1145 fig., BORDEN J. Econ. Ent. 24.

Dictyopteryx lorquiniana f. n. *flavana* Britain p. 100, SHELDON Entomologist 64.

Epiblema turbidana biology pp. 105–108, MITTERBERGER Ent. Jahrb., Leipzig 41 1932 [1931].

Epinotia opposita Peru p. 7, *accessa* Panama p. 9, spp. n. figs., HEINRICH Proc. U.S. Nat. Mus. 79 no. 2879.

Episimus mollita sp. n. Java p. 147, MEYRICK Exot. Micr. 4.

Eucosma loxaspis Java, *plumbaginea* Uganda p. 127, *pentagonaspis* Formosa p. 144, *autolitha*, *leucantha* p. 145, *ephoropa*, *holocrypta* Japan, *transmutata* Belgian Congo p. 146, spp. n., MEYRICK t.c.—*E. mochlophorana* Meyr. (= *aphrias* Meyr., *Raumatia trimaculata* Philp.); *fugitivana* Meyr. (= *Raumatia varia* Philp.) p. 30, PHILPOTT Trans. N.Z. Inst. 62.—*E. scutiformis* p. 64, *chloromima* p. 65 spp. n. China, MEYRICK Bull. Acad. Roumaine 14.—*E. gloriola* sp. n. Connecticut p. 196, HEINRICH Proc. Ent. Soc. Wash. 33.—*E. lineana* see *Tsinilla*.

Eulia haematitis Chile p. 381, *stalactitis* Argentina, Chile p. 382, spp. n., MEYRICK An. Mus. B. Aires 36.—*E. tristriata*, *niphastra*, *melanochlora* p. 151, *aphrobapta*, *exanthina*, *parvisignis*, *rhizosema* p. 152, *extinctrix* Brazil, *salubricola* Argentina p. 153, spp. n., MEYRICK Exot. Micr. 4.—*E. pierre-lovyana* sp. n. S. Tunisia p. 12 figs., DUMONT Bull. Soc. ent. Fr. 1931.—*E. ochreclivis* sp. n. China p. 63, MEYRICK Bull. Acad. Roumaine 14.

Eurythecta leucothrinca sp. n. New Zealand p. 367, MEYRICK Rec. Canterbury Mus. 3.

Euxanthis argyroplaca Arizona p. 157, *cosmolitha* Japan, *stereopsis* Argentina, *selecta* Paraguay p. 158, *pyrrhodelta* Costa Rica p. 159, spp. n., MEYRICK Exot. Micr. 4.—*E. amabilis* sp. n. China p. 62, MEYRICK Bull. Acad. Roumaine 14.

Exapate congelatella biology pp. 47–52 figs., ZORIN Plant Prot. 7.

Grapholitha conversana morphology, biology pp. 57–65 figs., ROCKWOOD & ZIMMERMAN J. Agric. Res. 43.—*G.*

strobilella biology p. 294, SCHÜTZE Ent. Z., Frankfurt a. M. 45.—*G. catabanana* sp. n. Aden p. 119, REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Gymnandrosoma desotatum morphological notes p. 6 fig., HEINRICH Proc. U.S. Nat. Mus. 79 no. 2879.

Hemimene typhlodes sp. n. Bulgaria p. 142, MEYRICK Exot. Micr. 4.—*H. marmarocyma* sp. n. China p. 66, MEYRICK Bull. Acad. Roumaine 14.

Homona biscutata sp. n. Fr. Guinea p. 149, MEYRICK Exot. Micr. 4.

Hysterosia zophocosma sp. n. Formosa p. 159, MEYRICK t.c.

Laspeyresia delineaana Wlk. (= *quadristrianus* Wals.); *stelosema* Uganda, *disperma* India spp. n. p. 143, MEYRICK t.c.—*L. conicolana* new to Br. Isles p. 27 figs., HUGGINS Entomologist 64.—*L. funebrana* biology pp. 63–75 [in Russian with German summary], MASHKOVITCH Bull. N. Cauc. Plant Prot. Sta. 6–7 1930.—*L. aureolana* Tengst. (= *phacana* Wocke) p. 53, BENANDER Z. wiss. InsektBiol. 26.

Oxygrapha gossypiella p. 351, *formosana* p. 353, spp. n. Formosa [English descriptions], SHIRAKI Spec. Rep. Formosa Agric. Expt. Sta. 8 1913.—*O. logiana* f. n. *tripunctana* p. 103; *literana* ff. n. *fulvana* p. 125, *brunneana* p. 126 Britain figs., SHELDON Entomologist 64.

Pandemis heparana var. n. *subclarana* Rumania p. 48, CARADJA Mem. Sect. Stiint. Acad. Romăna (2) 7 no. 8.—*P. chlorograptia* sp. n. China p. 150, MEYRICK Exot. Micr. 4.

Paratorna glaucoprosopis sp. n. Formosa p. 155, MEYRICK t.c.

Peronea revision of E. Siberian spp. pp. 497–528, keys p. 503, *Phylacophora* subgen. n. type *scalleriana* F. pp. 503, 508; *uniformis* p. 512, *nigriradix* p. 513, *similis* p. 515, *expressa* p. 517, *strigifera* p. 518, *grisea* p. 519 spp. n. E. Siberia; *cristana* key to ff. p. 510 figs., FILIPJEV Annu. Mus. zool. Acad. Leningrad 31.—*P. cristana* breeding experiments pp. 237–239, WHITTINGHAM Entomologist 64.—*P. croceopla* morphology pp. 227–231 figs., KONDO & MIYAHARA J. Plant

Prot. 18.—*P. acmanthes* Chile p. 382, *crocoptycha* Argentina p. 383, spp. n., MEYRICK An. Mus. B. Aires 36.—*P. permutana* ff. n. *brunneana* p. 3, *fuscana* p. 4, *argentana* p. 5 Britain, SHELDON Entomologist 64.—*P. chalcophanes* sp. n. India p. 156, MEYRICK Exot. Micr. 4.

Phaecasiophora inspersa sp. n. Florida p. 13, HEINRICH Proc. U.S. Nat. Mus. 79 no. 2879.

Phalonia chlorolitha, contumescens spp. n. Japan p. 157, MEYRICK Exot. Micr. 4.

Phylacophora subgen. n. see *Peronea*.

Polychrosis cetratana sp. n. Sokotra I. p. 117, REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.—*P. cellifera* see *Argyroploce*.

Raumatia trimaculata see *Eucosma mochlophorana*; *varia* see *E. fugitivana*.

Rhacodia E. Siberian spp. pp. 524–525 figs., FILIPJEV Annu. Mus. zool. Acad. Leningrad 31.

Rhopobota naevana ilicifoliana biology pp. 27–28, SPENCER Proc. Ent. Soc. Br. Columbia 28.

Semasia funesta sp. n. Ussuri p. 341, key to allied spp. p. 343 figs., FILIPJEV Annu. Mus. zool. Acad. Leningrad 31.—*S. luciana* subsp. n. *caliacrana* Rumania p. 37, CARADJA Mem. Sect. Stiint. Acad. Romăna (3) 7 no. 8.

Spilonota incretata sp. n. Java p. 143, MEYRICK Exot. Micr. 4.

Taeniarchis gen. n. for *Cnephasia periorma* Meyr. (type), *catenata* Meyr. p. 153, *spilozeucta* sp. n. Br. New Guinea p. 154, MEYRICK Exot. Micr. 4.

Tapinodoxa gen. n., *autonephes* sp. n. Paraguay p. 154, MEYRICK t.c.

Teras contaminana larva, pupa pp. 53–55, CURTIS Trans. Ent. Soc. S. Engl. 7.

Thiodia implicata sp. n. Washington p. 7, HEINRICH Proc. U.S. Nat. Mus. 79 no. 2879.—*T. indecorana* sp. n. Sokotra I. p. 118, REBEL Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Tortrix iopsamma Brazil, *antigona* Bulgaria spp. n. p. 150, MEYRICK Exot.

Micr. 4.—*T. imperfectana* subsp. n. *regisborissi* Macedonia p. 62, DRENOWSKI Mitt. bulgar. ent. Ges. Sofia 6.—*T. hyperptycha*, *myrrhophanes* spp. n. China p. 63, MEYRICK Bull. Acad. Roumaine 14.—*T. alopecana* see *Capua*.

Tsinilla gen. n. for *Eucosma lineana* Fern. p. 14, HEINRICH Proc. U.S. Nat. Mus. 79 no. 2879.

HEPIALIDAE.

Hepialus adriaticus sp. n. Dalmatia p. 47, OSTHELDER Mitt. münchn. ent. Ges. 41.

Porina gourlayi sp. n. New Zealand p. 36, PHILPOTT Trans. N.Z. Inst. 62.

MICROPTERYGIDAE (*s.l.*).

Morphology and systematics of Micropterygidae (definition of family p. 1037) of Japan and Formosa, with

some considerations of Australian, European and N. American forms, ISSIKI Proc. Zool. Soc. Lond. 1931 pp. 999–1039, 39 figs.

Neomicropteryx gen. n. p. 1011, *nipponensis* (type) p. 1012, *matsumurana* p. 1013, spp. n. Japan figs., ISSIKI Proc. Zool. Soc. Lond. 1931.

Neopseustis calliglauca further characters p. 85, MEYRICK Exot. Micr. 4.

Palaeomicroides gen. n. p. 1005, *fasciatella* p. 1006, *costipunctella* p. 1007, *obscurella* p. 1008, *marginella*, *discopurpurella* (type) p. 1009, *caeruleimaculella* p. 1010, spp. n. Formosa figs., ISSIKI Proc. Zool. Soc. Lond. 1931.

Paramartyria gen. n. p. 1000, *immaculatella* (type) p. 1002, *semifasciella* Japan, *maculatella* p. 1004, *bimaculella* p. 1002, *ovalella* p. 1003 Formosa, spp. n. figs., ISSIKI t.c.

TRICHOPTERA.

Trichoptera new to Sweden, FORSSLUND Ent. Tidskr. 51 1930 pp. 83-85.

Case-building of Trichopterous larvae, GORTER Z. Morph. Oekol. Tiere 20 pp. 443-532.

Trichopterous larvae and pupae of the Upper-Kamogawa river, Japan, IWATA Bull. Biogeogr. Soc. Japan 2 1930 pp. 1-20, 5 pls.

Annotated list of Trichoptera of E. Baltic, LACKSCHWITZ Arch. Naturk. Ostbalt. (2) 14 1922 Biol. no. 3 pp. 30-64.

Supplementary list of Trichoptera of E. Baltic, LACKSCHWITZ Arch. Naturk. Estl. (2) 14 1928 Biol. no. 4 pp. 20-40, 2 figs.

Trichoptera of France, MARTIN Pseudo-Névrolog. & Névrolog. [? 1931] pp. 192-207, 13 figs.

List of Trichoptera from the Pamirs, MARTYNOV Abh. Pamir Exped. 1928 2 1930 pp. 79-81.

Trichoptera of Br. Guiana, MOSELY Entomologist 64 p. 170.

Trichoptera of Lorraine, NAVÁS Brotéria, Sér. Zool. 27 pp. 143-144.

Notes on some Swedish Trichoptera, TJEDER Ent. Tidskr. 51 1930 pp. 198-205, 9 figs.

Allosetodes gen. n. (Leptoceridae), *plutonis* sp. n. Borneo p. 421 figs., BANKS J. F.M.S. Mus. 16.

Amphipsyche minima sp. n. Malaya p. 395 fig., BANKS t.c.

Anisocentropus bellus sp. n. Luzon p. 67 fig., BANKS Psyche 38.

Apatania arctica notes on ♂ p. 34, MOSELY Entomologist 64.

Apsilochorema malayana sp. n. Pahang p. 403 fig., BANKS J. F.M.S. Mus. 16.

Atopsyche spinosa sp. n. Br. Guiana p. 545 figs., MOSELY Trans. Ent. Soc. Lond. 79.

Beraeodina gen. n. (Beraeidae), *palpalis* sp. n. Corsica p. 353, MOSELY Entomologist 64.

Catagapetus nigrans larval cases with chimneys pp. 1-12 figs., UHLMANN Zool. Anz. 97.

Chaetopteryx obscurata new to Sweden p. 204, TJEDER Ent. Tidskr. 51 1930.

Chiloecia gen. n. (Limnophilidae) p. 365, *lacustris* sp. n. Chile p. 366 fig., NAVÁS Rev. chil. Hist. nat. 34 1930.

Chimarra kenya sp. n. Kenya p. 4 figs., ULMER Deuts. ent. Z. 1931.—*C. intexta* sp. n. Sierra Leone p. 546 figs., MOSELY Trans. Ent. Soc. Lond. 79.—*C. pedalis* Malaya p. 401, *atripennis* Borneo p. 425, spp. n., fig., BANKS J. F.M.S. Mus. 16.—*C. dybowskina* sp. n. Congo p. 123 fig., NAVÁS Brotéria, Sér. Zool. 27.

Crunociella excelsior p. 132, *nudata* p. 134, *inferior* p. 135, spp. n. E. Africa figs., NAVÁS t.c.

Diplectronella further characters p. 195, *taprobanes* Hag. further description p. 197; *indica* India p. 199, *afra* Uganda p. 202, spp. n. figs., MOSELY Ann. Mag. N.H. (10) 8.

Dipseudopsis overlaeti sp. n. Belgian Congo p. 274 fig., NAVÁS Rev. Zool. Bot. afr. 20.—*D. benardi*, *langana* Tonkin p. 141 26 1930, *conformis* Chad p. 124 27, spp. n. fig., NAVÁS Brotéria, Sér. Zool.—*D. spectabilis* sp. n. Borneo p. 69 fig., BANKS Psyche 38.—*D. moesta*, *contorta* spp. n. Malaya p. 400; *orientalis* Nav. from *Esperona* p. 401, fig., BANKS J. F.M.S. Mus. 16.—*D. arculata* China p. 85, *venosa* Philippines p. 86, spp. n., NAVÁS Rev. Acad. cien. Madrid 26.—*D. simplex* further description p. 5; *sicumbana* Portuguese E. Africa p. 6, *limbarenica* Fr. Congo p. 7; *morafenobena* Madagascar p. 8; *njalana* Sierra Leone p. 9, spp. n. figs., ULMER Deuts. ent. Z. 1931.

Enomus deceptor further description p. 11; *natalensis* sp. n. Natal p. 12 fig., ULMER t.c.

Eodinarthrum gen. n. (Sericostrimatidae) p. 16, *pusillum* sp. n. China p. 17 figs., MARTYNOV Proc. U.S. Nat. Mus. 79 no. 2891.

Esperona orientalis see *Dipseudopsis*.

Ganonema magnum sp. n. Pahang p. 394 figs., BANKS J. F.M.S. Mus. 16.—*G. annulicorne* sp. n. Belgian Congo p. 277 fig., NAVÁS Rev. Zool. Bot. afr. 20.

Glossosoma anale p. 2, *caudatum* p. 3, spp. n. China figs., MARTYNOV Proc. U.S. Nat. Mus. 79 no. 2891.

Goëra digitata sp. n. China p. 18 figs., MARTYNOV t.c.—*G. tagalica* sp. n. Luzon p. 66 fig., BANKS Psyche 38.—*G. uniformis* sp. n. Siam p. 393 figs., BANKS J. F.M.S. Mus. 16.

Goerinella venularis p. 392, *posticata* p. 393 Pahang, *grandis* Borneo p. 420, spp. n. figs., BANKS t.c.—*G. minor* sp. n. Luzon p. 67 fig., BANKS Psyche 38.

Goerodes abrupta, *continuata* spp. n. Malaya p. 391 figs., BANKS J. F.M.S. Mus. 16.

Haplosetina gen. n. (Leptoceridae) p. 143, *tenella* sp. n. Belgian Congo p. 144 figs., NAVÁS Rev. Zool. Bot. afr. 21.

Holocentropus insignis new to Sweden p. 199, TJEDER Ent. Tidskr. 51 1930.

Homilia vestita p. 278 20, *aurifera* p. 141 21, spp. n. Belgian Congo figs., NAVÁS Rev. Zool. Bot. afr.

Hydromanicus malayanus Malaya p. 398, *formosus* Borneo p. 423, spp. n. figs., BANKS J. F.M.S. Mus. 16.—*H. intermedius* sp. n. China p. 9 figs., MARTYNOV Proc. U.S. Nat. Mus. 79 no. 2891.

Hydropsyche appendicularis p. 7, *penicillata* p. 8, *columnata* p. 9, spp. n. China figs., MARTYNOV t.c.—*H. ornata* new to Scandinavia p. 199, TJEDER Ent. Tidskr. 51 1930.—*H. saxonica* var. n. *tenebricosa* Estonia p. 24, LACKSCHWITZ Arch. Naturk. Estl. (2) 14 1928 Biol. no. 4.—*H. isolata* sp. n. Borneo p. 422 fig., BANKS J. F.M.S. Mus. 16.

Hydropsychodes opposita sp. n. Selangor p. 398 figs., BANKS t.c.—*H. diminuta* further description p. 16; *thomasseti* p. 18, *triangularis* p. 19, spp. n. Natal figs., ULMER Deuts. ent. Z. 1931.—*H. burgeonia* sp. n. Belgian Congo p. 138 fig., NAVÁS Rev. Zool. Bot. afr. 21.—*H. atlantis* Grand Atlas p. 142 26 1930, *apicata* Belgian Congo p. 126 27, spp. n. fig., NAVÁS Broteria, Sér. Zool.

Hydroptila simulans, *forcipata* new to Sweden p. 201, TJEDER Ent. Tidskr. 51 1930.

Ithytrichia clavata p. 135, *lamellaris* p. 136 further descriptions figs., TJEDER t.c.

Leptocella bridarollia Argentina p. 75, *fulva* Chile p. 363, spp. n. figs., NAVÁS Rev. chil. Hist. nat. 34 1930.

Leptocerus modestus sp. n. Borneo p. 350, BANKS Bull. Mus. Comp. Zool. Harvard 64 1920.—*L. laufferi* sp. n. Spain p. 127 fig., NAVÁS Bol. Soc. ent. Esp. 14.—*L. ugandanus* sp. n. Uganda p. 20 fig., ULMER Deuts. ent. Z. 1931.

Limnophilus externus Hag. (= *congener* McL.) p. 201 figs., TJEDER Ent. Tidskr. 51 1930.—*L. flavicornis* egg masses p. 61, MOSELY Proc. Ent. Soc. Lond. 6.

Macronema natalense Natal p. 12, *rhodesianum* Rhodesia p. 14, spp. n. fig., ULMER Deuts. ent. Z. 1931.—*M. zebratum* function of tracheal gills in larvae pp. 361–379 figs., MORGAN & O'NEIL Physiol. Zool. 4.—*M. par* sp. n. Brazil p. 74 fig., NAVÁS Rev. chil. Hist. nat. 34 1930.—*M. brisi* sp. n. China p. 5 fig., NAVÁS Mus. Heude. Notes Ent. chin. fasc. 4 1930.—*M. caliptera* sp. n. 6 Luzon p. 68 fig., BANKS Psyche 38.—*M. spectabilis* p. 395, *albardana*, *similior* p. 396 Malaya, *splendens* p. 421, *pallipes* p. 422 Borneo, spp. n. figs., BANKS J. F.M.S. Mus. 16.

Marilia cinerea sp. n. Argentina p. 323 fig., NAVÁS Rev. Soc. ent. argent. 3.

Micrasema borneensis sp. n. Borneo p. 420 fig., BANKS J. F.M.S. Mus. 16.—*M. nigrum* new to Sweden p. 205, TJEDER Ent. Tidskr. 51 1930.

Micropterna sequax ♂ fig. p. 203, TJEDER t.c.

Molanna angustata distribution in soft waters Belgium pp. 193–198, LESTAGE Bull. Ann. Soc. ent. Belg. 71.

Nolga calceata sp. n. Chile p. 364, NAVÁS Rev. chil. Hist. nat. 34 1930.

Nothopsyche rhombifera sp. n. China p. 15 figs., MARTYNOV Proc. U.S. Nat. Mus. 79 no. 2891.

Odontocerus albicorne new to Scandinavia p. 200, TJEDER Ent. Tidskr. 51 1930.

Oecetina australis Australia p. 350, *disjuncta* California, *angusta* Borneo p. 351, spp. n., BANKS Bull. Mus. Comp. Zool. Harvard 64 1920.

Oecetis hulstaerti sp. n. Belgian Congo p. 142 fig., NAVÁS Rev. Zool. Bot. afr. 21.—*O. apicata* sp. n. Argentina p. 323 fig., NAVÁS Rev. Soc. ent. argent. 3.—*O. acuta* sp. n. Natal p. 22 fig., ULMER Deuts. ent. Z. 1931.—*O. janseni* Africa p. 112, *bicaudata* Chad p. 130, spp. n. figs., NAVÁS Brotéria, Sér. Zool. 27.

Paduniella borneensis sp. n. Borneo p. 426, BANKS J. F.M.S. Mus. 16.

Phylloicus lituratus sp. n. Colombia p. 350, BANKS Bull. Mus. Comp. Zool. Harvard 64 1920.—*P. obliquus* sp. n. Brazil p. 458 fig., NAVÁS Rev. Mus. paul. 17.

Phylocentropus orientalis sp. n. Pahang p. 399 figs., BANKS J. F.M.S. Mus. 16.

Plectrocnemia laetabilis ♀ p. 126, NAVÁS Bol. Soc. ent. Esp. 14.

Plesiopsyche gen. n. (Hydropsychidae), *alluaudina* sp. n. Ruwenzori p. 127 fig., NAVÁS Brotéria, Sér. Zool. 27.

Podomacronema gen. n. (Hydropsychidae), *subfuscum* sp. n. Argentina p. 358, BANKS Bull. Mus. Comp. Zool. Harvard 64 1920.

Polycentropus corsicus sp. n. Corsica p. 254, MOSELY Entomologist 64.—*P. nubigenus* see *Polyplectropus*.

Polymorphanisus bisignatus sp. n. p. 276 20; *bipunctatus* var. n. *pupillata* p. 139; *elisabethae* sp. n. p. 140 21 Belgian Congo figs., NAVÁS Rev. Zool. Bot. afr.

Polyplectropus nubigenus Hag. from *Polycentropus* p. 400; *analís* Malaya p. 399, *irroratus*, *unicolor* Borneo p. 425, spp. n. figs., BANKS J. F.M.S. Mus. 16.

Prophryganea macdunnoughi, *deflata*, *bradorata* spp. n. Canada p. 230; *sayi* n. n. for *interrupta* Say nec F. p. 228 figs., MILNE Canad. Ent. 63.

Pseudostenophylax fumosus subsp. n. *grahami* p. 12; *difficilis* sp. n. p. 13 China figs., MARTYNOV Proc. U.S. Nat. Mus. 79 no. 2891.

Psychomyiellodes gen. n. (Psychomyiidae) p. 547, *ungulata* sp. n. Sierra Leone p. 549 figs., MOSELY Trans. Ent. Soc. Lond. 79.

Ptochoecetis gen. n. (nr. *Oecetis*), *africana* sp. n. Sierra Leone p. 23 figs., ULMER Deuts. ent. Z. 1931.

Rhyacophila carletoni sp. n. N. India p. 69 fig., BANKS Psyche 38.—*R. malayana* p. 402, *cameroni* p. 403, spp. n. Malaya figs., BANKS J. F.M.S. 16.—*R. sinensis* sp. n. China p. 1 figs., MARTYNOV Proc. U.S. Nat. Mus. 79 no. 2891.

Rhyacophylax frequens, *decorus* spp. n. Chile p. 362 fig., NAVÁS Rev. chil. Hist. nat. 34 1930.

Sciops elongatus p. 423, *oculata*, *pallidus* p. 424, spp. n. Borneo figs., BANKS J. F.M.S. Mus. 16.

Setodes squamosa sp. n. Natal p. 549 figs., MOSELY Trans. Ent. Soc. Lond. 79.—*S. hargreavesi* p. 25, *sierraleonana* p. 27, spp. n. Sierra Leone figs., ULMER Deuts. ent. Z. 1931.—*S. debilis* sp. n. Chad p. 121 fig., NAVÁS Brotéria, Sér. Zool. 27.

Silvatares gen. n. (Calamoceratidae), *excellsus* sp. n. Ruwenzori p. 129 fig., NAVÁS t.c.

Stenopsyche grahami China p. 4, *siamensis* Siam p. 5, spp. n. figs., MARTYNOV Proc. U.S. Nat. Mus. 79 no. 2891.—*S. dentata* Korea p. 6, *kharbinica* Manchuria p. 7, *uncinata* Tonkin, *lobulata* p. 9, *hamata* p. 11 Annam, *cinerea* Yunnan p. 12, spp. n. figs., NAVÁS Mus. Heude. Notes Ent. chin. fasc. 4 1930. 12

[*Thremma*] *Tremma* sp. larva pp. 121–128 figs., STANKOVIĆ Bull. Soc. Sci. Skopje 4 1928.

Triaenodes tinmelina sp. n. Grand Atlas p. 143 fig., NAVÁS Brotéria, Sér. Zool. 26 1930.—*T. simulans* new to Britain, not a var. of *reuteri* p. 16, MORTON Ent. Mon. Mag. 67.

Ulmeria comorina sp. n. Comoro Is. p. 125 fig., NAVÁS Brotéria, Sér. Zool. 27.

NEUROPTERA.

Morphological notes on alder-flies from the Cape, S. Africa, BARNARD Trans. Roy. Soc. S. Afr. 19 pp. 169–184, 12 figs.

Larvae of Megaloptera from Sunda Is. with key, VAN EMDEN Arch. Hydrobiol. Suppl. 9 pp. 47-58, 13 figs.

Morphological notes on Neuroptera of Angola, ESBEN-PETERSEN Rev. suisse Zool. 38 pp. 89-95, 5 figs.

Myrmeleonidae from S. India, ESBEN-PETERSEN Rev. suisse Zool. 38 pp. 445-448, 3 figs.

Neuroptera from Anglo-Egyptian Sudan, ESBEN-PETERSEN Denkschr. Akad. Wiss. Wien 102 pp. 201-206, 5 figs.

Neuroptera new to Sweden, FORSLUND Ent. Tidskr. 51 1930 pp. 83-85.

Neuroptera of Glamorgan, HALLETT Trans. Cardiff Nat. Soc. 62 pp. 67-69.

Notes on British Neuroptera, KILLINGTON Entomologist 64 pp. 73-76, 1 fig.

Annotated list of Neuroptera of E. Baltic, LACKSCHEWITZ Arch. Naturk. Ostbalt. (2) 14 1922 Biol. no. 3 pp. 1-30.

Supplementary list of Neuroptera of E. Baltic, LACKSCHEWITZ Arch. Naturk. Estl. (2) 14 1928 Biol. no. 4 pp. 1-20, 4 figs.

Notes on Chrysopids, LACROIX Bull. Soc. ent. Fr. 1931 pp. 173-174.

Neuroptera of Rottness I., Australia, MATHEWS J. Roy. Soc. W. Aust. 16 1930 pp. 43-44.

Neuroptera of France, MARTIN Pseudo-Névro. & Névro. [? 1931] pp. 165-191, 15 figs.

Neuroptera of Lorraine, NAVÁS Bro-téria, Sér. Zool. 27 pp. 138-139.

Neuroptera of Haiti, SMITH Ann. Ent. Soc. Amer. 24 pp. 798-821, 2 pls.

Biology of German Planipennia, STITZ Biol. Tiere Deutsch. Teil 35 pp. 67-304, 334 figs.

Biology of ant-lions, WHEELER Demons of the dust, London pp. 80-141, 12 figs.

Acanthacalis pallida var. n. *rufa* Central Asia p. 62 fig., NAVÁS Rev. Acad. cien. Madrid 26.

Acanthacorydalis kolbei ♀ p. 72; *horrenda* sp. n. Naga Hills, India p. 73 figs., NAVÁS t.c.

Afroclimacius gen. n. (nr. *Formicaleo*) p. 128, *dumontinus* sp. n. Tunisia p. 129, NAVÁS Brotéria, Sér. Zool. 26 1930.

Amoea fulva sp. n. Paraguay p. 60, NAVÁS Rev. Acad. cien. Madrid 26.

Apochrysa matsumurai see *Nacaura*.

Ascalaphus longicornis in Normandy p. 141, GADEAU DE KERVILLE Bull. Soc. Sci. nat. Rouen (7) 64-65 1930.

Baga mediata sp. n. India p. 66 fig., NAVÁS Rev. Acad. cien. Madrid 26.

Berotha sashilana sp. n. Belgian Congo p. 269 fig., NAVÁS Rev. Zool. Bot. afr. 20.

Borbon regius (= *Dendroleon sumatranum* Bks.), *javanus* from *Dendroleon* p. 388, BANKS J. F.M.S. Mus. 16.

Boriomyia enontekiensis sp. n. Lapland p. 105 figs., KLINGSTEDT Mem. Soc. Fauna fenn. 5 1930.—*B. quadrifasciata* and allied spp., notes on characters p. 246, BAKKER Ent. Ber. 8.

Bornia winkleri see *Chrysopa*.

Brisus gen. n. (Neuroleinae), *salomonicus* sp. n. Solomon Is. p. 67 fig., NAVÁS Rev. Acad. cien. Madrid 26.

Chloronia hieratica sp. n. Brazil p. 38 figs., NAVÁS Rev. R. Acad. Madrid 24 1928.

Chrysopa intima MacL. (= *perla* var. *fracta* Nav.); *nigriceps* p. 58, *sapporensis* p. 60, *furcifera* p. 61, *boninensis* p. 62, *ogasawarensis* p. 64, *nipponensis* p. 65, *matsumurae* p. 68, *nikkoensis* p. 69, *cognatella* p. 70, *kurisakiana* p. 71, spp. n. Japan, OKAMOTO J. Coll. Agric. Sapporo 6 1914.—*C.* key to Haitian spp. p. 802, *damiensis* p. 803, *haitiensis* p. 806, *dozieri* p. 808, *wolcottii* p. 810, *freemani* p. 811 spp. n. Haiti; *exterior* p. 804, *thoracica* p. 807, *estradae*, *antillana* p. 809 further descriptions figs., SMITH Ann. Ent. Soc. Amer. 24.—*C. dancalica* sp. n. Dancalia p. 151, NAVÁS Ann. Mus. Genova 55.—*C. bequaerti* varr. n. *occipitalis* p. 127, *rubella*; *collarti* sp. n. p. 128, Belgian Congo, NAVÁS Rev. Zool. Bot. afr. 21.—*C. ogloblini* sp. n. Argentina p. 317 fig., NAVÁS Rev. Soc. ent. argent. 3.—*C. clypealis* Baluchistan p. 71, *cantonensis* Canton p. 81, *parallela* Burma, *divergens* Costa Rica p. 82, *quettana* Baluchistan p. 83, spp. n., NAVÁS Rev. Acad. cien. Madrid 26.—*C.* key to Malayan spp., *winkleri* Nav. from *Bornia*; *neglecta*, *perturbata* Malaya p. 382, *alticola* Borneo p. 414 spp. n., BANKS J. F.M.S. Mus. 16.—*C. phyllochroma* ovum p. 75; *carnea* Steph. (= *vulgaris*

Schneid.); *ventralis* Curt. (= *prasina* Burm.) p. 112; *alba* discussed p. 113 fig., KILLINGTON Entomologist 64.—*C. obliquata* Benguet p. 64, *eureka* Arkansas p. 174, *spp. n.*, BANKS Psyche 38.—*C. mozambica* p. 105, *iniqua* p. 106 Mozambique, *nigriciana* Nigeria p. 119, *phaeocephala* Tunisia p. 120, *spp. n.* fig., NAVÁS Brotéria, Sér. Zool. 27.—*C. mosconica* *sp. n.* Eritrea p. 136 13; *petersenia* *n. n.* for *peterseni* Nav. nec Banks p. 20; *ceratodes* *n. n.* for *cornuta* Nav. 1926 nec 1925 p. 74 14, NAVÁS Bol. Soc. ent. Esp.—*C. deficiens* p. 194, *distracta* p. 195, *spp. n.* Siberia figs., NAVÁS Rev. russe Ent. 24 1930.—*C. oculata* biology pp. 123–126, BRIAND Canad. Ent. 63.—*C. perla* external morphology pp. 1–36 figs., MORSE J. N.Y. Ent. Soc. 39.—*C. coronata* Argentina p. 64, *josephina* p. 299, *cajencis* p. 300 Costa Rica, *spp. n.* figs., NAVÁS Rev. chil. Hist. nat. 34 1930.

Cintameva lurida *sp. n.* Argentina p. 66 fig., NAVÁS t.c.—*C. sibirica* *sp. n.* Siberia p. 195, NAVÁS Rev. russe Ent. 24 1930.—*C. angelnina* *sp. n.* Germany p. 84, NAVÁS Rev. Acad. cien. Madrid 26.—*C. lorentensis* *sp. n.* Argentina p. 318 fig., NAVÁS Rev. Soc. ent. argent. 3.

Climaciella timmerhansi *sp. n.* Belgian Congo p. 130 fig., NAVÁS Rev. Zool. Bot. afr. 21.

Coniopteryx borealis, *tullgreni*, *esben-peterseni* (also Denmark) *spp. n.* Sweden p. 206, TJEDER Ent. Tidskr. 51 1930.—*C. tucumana* further description p. 319, NAVÁS Rev. Soc. ent. argent. 3.—*C. haitiensis* *sp. n.* Haiti p. 819 fig., SMITH Ann. Ent. Soc. Amer. 24.

Costachillea werneri *sp. n.* Sudan p. 205 fig., ESSEN-PETERSEN Denkschr., Akad. Wiss. Wien 102.

Creoleon nefstani *sp. n.* Tunisia p. 131 fig., NAVÁS Brotéria, Sér. Zool. 26 1930.—*C. afer* *sp. n.* E. Africa p. 70 fig., NAVÁS Rev. Acad. cien. Madrid 26.

Cueta acuta *sp. n.* E. Africa p. 65 fig., NAVÁS t.c.—*C. longula* see *Furga*.

Cymothales regalis *sp. n.* Belgian Congo p. 267 fig., NAVÁS Rev. Zool. Bot. afr. 20.

Dendroleon sumatranum see *Borbon regius*; *javanus* see *Borbon*.

Dimares hageni *sp. n.* Brazil p. 330, BANKS Bull. Mus. Comp. Zool. Harvard 64 1920.

Dolicholeon burmanus *sp. n.* Burma p. 80, NAVÁS Rev. Acad. cien. Madrid 26.

Elicura ferus *sp. n.* Chile p. 351, NAVÁS Rev. chil. Hist. nat. 34 1930.

Encyoposis seydeli Nav. from *Heli-comitus*, ♂ p. 259; *walkeri* *sp. n.* Belgian Congo p. 260 fig., NAVÁS Rev. Zool. Bot. afr. 20.—*E. brevistigma* *sp. n.* Angola p. 89 fig., ESSEN-PETERSEN Rev. suisse Zool. 38.

Eophanes *gen. n.* (Myrmeleonidae) p. 60, *formosa* *sp. n.* Luzon p. 61 fig., BANKS Psyche 38.

Euroleon sjostedti *sp. n.* Kansu p. 30, NAVÁS Rev. R. Acad. Madrid 24 1928.

Feina *gen. n.* (Myrmeleonidae) p. 263, *languida* *sp. n.* Belgian Congo p. 264 fig., NAVÁS Rev. Zool. Bot. afr. 20.

Formicaleo monardi *sp. n.* Angola p. 93 fig., ESSEN-PETERSEN Rev. suisse Zool. 38.

Furga *gen. n.* (Myrmeleonidae), *tunetana* *sp. n.* Tunisia p. 122 fig., NAVÁS Brotéria, Sér. Zool. 26 1930.—*F. longula* Nav. from *Cueta* p. 130, NAVÁS Bol. Soc. ent. Esp. 13.—*F. campestris* *sp. n.* Ecuador p. 107 fig., NAVÁS Rev. chil. Hist. nat. 34 1930.

Gandulus overlaeti *sp. n.* Belgian Congo p. 268 fig., NAVÁS Rev. Zool. Bot. afr. 20.

Ganussa mavromustakisi *sp. n.* Cyprus p. 68 fig., NAVÁS Rev. Acad. cien. Madrid 26.

Gerstaeckerella anchietai Brazil p. 69, *leonina* Chile p. 302, *spp. n.* figs., NAVÁS Rev. chil. Hist. nat. 34 1930.

Gymnocnemia boliviana *sp. n.* Bolivia p. 330, BANKS Bull. Mus. Comp. Zool. Harvard 64 1920.

Haarupiella pallida see *Nusalala*.

Hagenomyia sumatranus Weele (= *celebensis* Weele, *nitens* Nav., *nigrinus* Pet.) p. 389, BANKS J. F.M.S. Mus. 16.

Haplogenus camposi ♂ p. 18, NAVÁS Rev. chil. Hist. nat. 34 1930.

Helicoconis lutea in Lapland p. 88 fig., KLINGSTEDT Mem. Soc. Fauna fenn. 5 1930.

Helicomitus seydeli see *Encyoposis*.

Heliosmylus fraternus *sp. n.* Borneo p. 417, BANKS J. F.M.S. Mus. 16.

Hemerobius incurtus sp. n. Pahang p. 384, BANKS t.c.—*H. hespericus* sp. n. Canary Is. p. 119 fig., NAVÁS Bol. Soc. ent. Esp. 14.—*H. humulinus* L. status p. 112, KILLINGTON Entomologist 64.—*H. perelegans* good sp. pp. 197–201 figs., MORTON Entomologist 64.—*H. inconspicuus* see *Symphorobius fuscescens*.

Isoleon gen. n. for *Myrmeleon pumilio* Klap. p. 204 fig., EBBEN-PETERSEN Denkschr. Akad. Wiss. Wien 102.

Joguina malayana sp. n. Selangor p. 383, BANKS J. F.M.S. Mus. 16.

Lainius decoratus sp. n. S. America p. 66 fig., NAVÁS Rev. chil. Hist. nat. 34 1930.

Lertha zambesina sp. n. Zambesi p. 114 fig., NAVÁS Brotéria, Sér. Zool. 27.

Leucochrysa haitiensis sp. n. Haiti p. 812 fig., SMITH Ann. Ent. Soc. Amer. 24.—*L. californica* sp. n. California p. 36, NAVÁS Rev. R. Acad. Madrid 24 1928.

Macronemurus clathratus ♂ p. 104, NAVÁS Brotéria, Sér. Zool. 27.

Madrasa handlirschi further description p. 62, BANKS Psyche 38.

Mantispa styriaca habits p. 26, MAIN Proc. Ent. Soc. Lond. 6.—*M. mukni* sp. n. Argentina p. 68 fig., NAVÁS Rev. chil. Hist. nat. 34 1930.

Mantispa flavicornis sp. n. Costa Rica p. 301 fig., NAVÁS t.c.—*M. hemichroa* sp. n. Belgian Congo p. 129, NAVÁS Rev. Zool. Bot. afr. 21.—*M. loveni* sp. n. E. Africa p. 37 fig., NAVÁS Rev. R. Acad. Madrid 24 1928.

Megistoleon gen. n. (nr. *Macroleon*) p. 63, *fumosus* sp. n. locality unknown, possibly Africa, p. 64 fig., NAVÁS Rev. Acad. cien. Madrid 26.

Micromus haitiensis sp. n. Haiti p. 800 fig., SMITH Ann. Ent. Soc. Amer. 24.

Micronemurus delicatus sp. n. Tunisia p. 118 fig., NAVÁS Brotéria, Sér. Zool. 27.

Myrmeleon insertus further description p. 817, SMITH Ann. Ent. Soc. Amer. 24.—*M. incompletus* Ecuador, *pallidipes* Brazil spp. n. p. 331, BANKS Bull. Mus. Comp. Zool. Harvard 64 1920.—*M. pumilio* see *Isoleon*.

Nacaura gen. n. for *Apochrysa matsumurai* Okam. p. 280, NAVÁS Rev. russe ent. 13 1913.

Nadiva egena sp. n. Venezuela p. 67, NAVÁS Rev. chil. Hist. nat. 34 1930.

Nefta gen. n. (*Myrmeleonidae*) p. 125, *tunetana* sp. n. Tunisia p. 126 fig., NAVÁS Brotéria, Sér. Zool. 26 1930.

Nelees longipes further description p. 128 26 1930; *quadripunctatus* sp. n. E. Africa p. 103 27 fig., NAVÁS op. cit.—*N. posterior* p. 262, 20; *distinctus* spp. n. Belgian Congo; *posterior* ♂ p. 126 21 fig., NAVÁS Rev. Zool. Bot. afr.—*N. retialis* sp. n. Dancalia p. 149 fig., NAVÁS Ann. Mus. Genova 55.—*N. bronzi* sp. n. Eritrea p. 134 fig., NAVÁS Bol. Soc. ent. Esp. 13.

Neochauliodes yunnanensis sp. n. Yunnan p. 1, NAVÁS Mus. Heude. Notes Ent. chin. fasc. 4 1930. 1/6

Nesoleon further description, type *braunsi* Bks. p. 124, *overlaeti* sp. n. Belgian Congo p. 125 fig., NAVÁS Rev. Zool. Bot. afr. 21.—*N. perpunctatus* sp. n. Madras p. 60, BANKS Psyche 38.

Neuroleon lesnei sp. n. Zambesi p. 102, NAVÁS Brotéria, Sér. Zool. 27.

Neuronema indicum sp. n. no locality p. 36 fig., NAVÁS Rev. R. Acad. Madrid 24 1928.

Ninga n. n. for *Ninguta* Nav. nec Moore p. 122, NAVÁS Bol. Soc. aragonesa Ci. nat., Zaragoza 12 1913.

Ninguta see *Ninga*.

Nocaldria dancalica sp. n. Dancalia p. 150 fig., NAVÁS Ann. Mus. Genova 55.—*N. irrorata* sp. n. Eritrea p. 133 fig., NAVÁS Bol. Soc. ent. Esp. 13.

Nodita longistigma sp. n. Ecuador p. 108, NAVÁS Rev. chil. Hist. nat. 34 1930.—*N. rufescens* sp. n. Brazil p. 85, NAVÁS Rev. Acad. cien. Madrid 26.

Nohoveus aequalis sp. n. Dancalia p. 148 fig., NAVÁS Ann. Mus. Genova 55.

Nophis teilhardi further description p. 124, NAVÁS Brotéria, Sér. Zool. 26 1930.

Notiobiella antennata p. 269 20, *congensis* p. 129 21, spp. n. Belgian Congo figs., NAVÁS Rev. Zool. Bot. afr.

Nulema pupillus sp. n. Paraguay p. 62 fig., NAVÁS Rev. chil. Hist. nat. 34 1930.

Nusalala pallida Esb.-Pet. from *Haarupiella* p. 64, NAVÁS t.c.—*N. gradata* sp. n. Siberia p. 195 fig., NAVÁS Rev. russe Ent. 24 1930.—*N. damiensis* sp. n. Haiti p. 800 fig., SMITH Ann. Ent. Soc. Amer. 24.

Oligoleon gen. n. (nr. *Neuroleon*), *longipennis* sp. n. Sudan p. 202 fig., ESBEN-PETERSEN Denkschr. Akad. Wiss. Wien 102.

Osmylus fulvicephalus notes on confusion of sexes and fore coxae of ♀ pp. 135–136 figs., KILLINGTON Entomologist 64.

Palpares solidus var. n. *valida* Afghanistan p. 28 fig., NAVÁS Rev. R. Acad. Madrid 24 1928.

Phanoleon gen. n. (Myrmeleonidae), *bicostatus* sp. n. Malaya p. 387, BANKS J. F.M.S. Mus. 16.

Pignatellus limassolicus sp. n. Cyprus p. 69 fig., NAVÁS Rev. Acad. cien. Madrid 26.

Platychauliodes capensis p. 175, *woodi* p. 177, spp. n. S. Africa figs., BARNARD Trans. Roy. Soc. S. Afr. 19.

Polystoechotes punctatus egg p. 22 fig., HUNGERFORD Bull. Brooklyn Ent. Soc. 26.

Protohermes uniformis, bellulus spp. n. Borneo p. 412 figs., BANKS J. F.M.S. Mus. 16.—*P. decolor* sp. n. Asia p. 74 fig., NAVÁS Rev. Acad. cien. Madrid 26.

Psammoleon parvulus sp. n. Brazil 331, BANKS Bull. Mus. Comp. Zool. Harvard 64 1920.

Psectra diptera in Pommerania p. 148, SCHMIDT Abh. Ber. pommersch. Naturf. Ges. Stettin 11.

Pseudochrysa gen. n. (Chrysopidae), *formosana* sp. n. Formosa p. 55 fig., OKAMOTO J. Coll. Agric. Sapporo 6 1914.

Pseudohybris heymonsii new to Belgian Congo p. 122, NAVÁS Rev. Zool. Bot. afr. 21.

Raphidia biology and description of British spp. p. 82 figs., SYMS Essex Nat. 23.—*R. cypria* sp. n. Cyprus p. 77 fig., NAVÁS Rev. Acad. cien. Madrid 26.

Rexavius marmoratus Siam p. 385, *grandis* Borneo p. 413, spp. n., BANKS J. F.M.S. Mus. 16.

Savignyella bourboni sp. n. Africa, ? Nigeria p. 116 fig., NAVÁS Brotéria, Sér. Zool. 27.

Sisyra jutlandica morphology, distribution pp. 81–88 figs., KLINGSTEDT Mem. Soc. Fauna fenn. 5 1930.

Sogra magnifica sp. n. E. Africa p. 79, NAVÁS Rev. Acad. cien. Madrid 26.

Solter virgilioi sp. n. Italian Somaliland p. 131 fig., NAVÁS Bol. Soc. ent. Esp. 13.

Sphaeroberotha gen. n. (Berthidae) p. 133, *dumonti* sp. n. Tunisia p. 134 fig., NAVÁS Brotéria, Sér. Zool. 26 1930.

Spilosmylus ceylonensis ♀ p. 65, BANKS Psyche 38.

Stenares frazeri sp. n. Coorg p. 58, BANKS t.c.

Stigmatosmylus pretiosus sp. n. Borneo p. 417, BANKS J. F.M.S. Mus. 16.

Suphalacsa microstigma sp. n. Belgian Congo p. 258, NAVÁS Rev. Zool. Bot. afr. 20.—*S. reducta* sp. n. Luzon p. 63, BANKS Psyche 38.—*S. sordidata* sp. n. Australia p. 61 fig., NAVÁS Rev. Acad. cien. Madrid 26.

Symphorobius fuscescens Wall. (= *Hemerobius inconspicuus* MacL.) p. 31, TJEDER Ent. Tidskr. 51 1930.—*S. fuscescens* Wall. (= *inconspicuus* McL.) not a synonym of *pellucidus* Wlk. p. 114; life-history pp. 217–223 fig., KILLINGTON Entomologist 64.

Syngenes palpalis sp. n. Madras p. 62, BANKS Psyche 38.

Thaumatostylus delicatus sp. n. Borneo p. 418, BANKS J. F.M.S. Mus. 16.

Vella fallax subsp. n. *haitiensis* Haiti p. 815, SMITH Ann. Ent. Soc. Amer. 24.

Vessa gen. n. (Myrmeleonidae) p. 265, *guttata* sp. n. Belgian Congo p. 266, NAVÁS Rev. Zool. Bot. afr. 20.

Vinga gen. n. (Myrmeleonidae) p. 31, *lovenia* sp. n. Uganda p. 32 figs., NAVÁS Rev. R. Acad. Madrid 24 1928.

MECOPTERA.

Revision of Nearctic Mecoptera, CARPENTER Bull. Mus. Comp. Zool. Harvard 72 pp. 205–277, 8 pls.

The biology of the Mecoptera, CARPENTER Psyche **38** pp. 41–55, 1 fig.

Mecoptera of Lorraine, NAVÁS Bro-téria, Sér. Zool. **27** p. 139.

Bittacus sinicus sp. n. China p. 221 fig., ISSIKI Ann. Mag. N.H. (10) **7**.—*B. zambezinus* sp. n. Zambesi p. 106 fig., NAVÁS Brotéria, Sér. Zool. **27**.—*B. stigmaterus* biology, morphology pp. 467–484 figs., SETTY Ann. Ent. Soc. Amer. **24**.

Boreus semenovi sp. n. Russian Far East p. 230, PLIGINSKI Rev. russe Ent. **24** 1930.—*B. hiemalis* biology pp. 218–220 figs., BOUWMAN Levende Natuur **26**.

Brachypanorpa gen. n. for *Panorpodes carolinensis* Banks (type), *oregonensis* MacL. p. 209; *montana* sp. n. Oregon p. 212 figs., CARPENTER Bull. Mus. Comp. Zool. Harvard **72**.

Chorista victoriensis sp. n. Australia p. 219 fig., ISSIKI Ann. Mag. N.H. (10) **7**.

Leptopanorpa brisi sp. n. Yunnan p. 4 fig., NAVÁS Mus. Heude. Notes Ent. chin. fasc. **4** 1930.

Neopanorpa dimidiata p. 2, *lacunaris* p. 3, spp. n. Yunnan figs., NAVÁS t.c.—*N. hirsuta* redescription p. 184 figs., CARPENTER Psyche **38**.—*N. infuscata* Perak p. 390, *flavicauda* Borneo p. 419, spp. n. figs., BANKS J. F.M.S. Mus. **16**.

Panorpa ochracea p. 3, *zinanoensis* p. 4, *rectifasciata* p. 5, *striata* p. 6, *nihonensis* p. 7, *pulchra* p. 8, *trizonata*, *brachypennis* p. 9, *takanouchii* p. 10, *nikkoensis* p. 11, spp. n. Japan, MIYAKE Bull. Coll. Agric. Tokyo **8** 1909.—*P. tincta* sp. n. Asia p. 75 fig., NAVÁS Rev. Acad. cien. Madrid **26**.—*P. mirabilis* p. 229, *longicornis* p. 231, *acuta* p. 253, *modesta* p. 233, *submaculosa* p. 255, *elaborata* p. 239, *dissimilis* p. 246, *robusta* p. 240, *isolata* p. 241, *neglecta*, *braueri* p. 242, *proximata*, *gracilis* p. 247, *speciosa*, *dubitans* p. 243, *sigmoides* p. 250, *decorata*, *anomala* p. 245, *chelata* p. 251, *submaculosa* p. 255, spp. n. U.S.A. figs., CARPENTER Bull. Mus. Comp. Zool. Harvard **72**.

Panorpodes carolinensis, *oregonensis* see *Brachypanorpa*.

DIPTERA.

Collecting flies in the Western United States, ALDRICH Explor. Field-Work Smiths. Inst. **1930** pp. 107–112, 5 figs.

List of Diptera from S. Arabia and Sokotra I., BECKER et al. Denkschr. Akad. Wiss. Wien **71** no. 2 (1907) 1931 pp. 131–160.

Diptera of the Oxford University Expedition to Greenland 1928, COLLIN Ann. Mag. N.H. (10) **7** pp. 67–91, 27 figs.

First supplement to the "Diptera of Porto Rico and the Virgin Islands," with various keys, CURRAN Amer. Mus. Nov. no. **456** 23 pp. 4 figs.

Diptera Nematocera of Oxford University Greenland Expedition, 1928, EDWARDS Ann. Mag. N.H. (10) **8** pp. 617–618.

Diptera Nematocera from the lowlands of N. Borneo, EDWARDS J. F.M.S. Mus. **16** pp. 486–504, 5 figs.

Diptera of the plateau of Hautes-Fagnes, GOETGHEBUER Bull. Ann. Soc. ent. Belg. **71** pp. 171–182.

Recent changes in names of some common British Diptera, HINCKS & DIBB Naturalist **1931** pp. 175–176.

Diptera of Amrum I., Germany, KARL Deuts. ent. Z. **1930** pp. 193–206.

Notes on Utah Diptera, KNOWLTON Canad. Ent. **63** pp. 152–157.

The groups of Palaearctic Diptera with keys, LINDNER Flieg. Pal. Reg. **1** pp. 97–144, 1 pl. 115 figs.

Notes on Australian Diptera, XXVII–XXIX, MALLOCH Proc. Linn. Soc. N.S.W. **56** pp. 60–78, 273–276, 292–298, 4 figs.

Diptera collected by P. Lesne in Mozambique 1928–29, SÉGUY Bull. Mus. Paris (2) **2** (1930) pp. 645–656, 3 figs.; (2) **3** pp. 113–124, 1 fig.

Annotated list with keys of salt-water Diptera of Oldesloe, Holstein, THIENEMANN Mitt. geogr. Ges. Lübeck (2) **31** 1926 pp. 102–126.

Diptera collected in Cornwall, THORNTON J.R. Inst. Cornwall **23** 1929–1930 pp. 87–102, 288–296.

Classification of Diptera from Réaumur (1738) to the present discussed briefly, VIMMER Věda Přír. 8 1927 pp. 39-44.

CECIDOMYIIDAE (ITONIDIDAE).

Gall-midges whose larvae prevent seed production in grasses (Gramineae), BARNES Bull. Ent. Res. 22 pp. 199-202.

Sex ratio in gall-midges, BARNES J. Genet. 24 pp. 225-234.

Revised key to sufamm., tribes and genn. of Itonididae pp. 424-469, catalogue of Asian spp. pp. 460-465, FELT Lingnan Sci. J. 7.

Amblardiella tamaricum biology, parasites pp. 264-270 figs., DIEUZEIDE Bull. Soc. Hist. nat. Afr. N. 22; adults described p. 271 figs., BARNES Bull. Soc. Hist. nat. Afr. N. 22.

Arthrocnodax wissmani life-history pp. 180-182 figs., BROOKE Entomologist 64.

Cecidomyia baeri sp. n. Germany p. 51 figs., PRELL Tharandter Forst. Jahrb. 82.

Contarinia pyrivora life-history pp. 196-200, MUNDINGER J. Econ. Ent. 24.

Diplosis fleothripetiperda sp. n. Italy p. 133, DEL GUERCIO Redia 19.

Mayetiola (Phytophaga) *destructor* larval anatomy pp. 417-419, HASEMAN J. Econ. Ent. 24.—*M. phalaris* larva p. 14 fig., TOMASZEWSKI Arb. biol. Reichsanst. Land- u. Forstw. 19.

Olesicoccus gen. n., *costa-limai* sp. n. Brazil p. 186 figs., BORGMEIER Rev. Ent. S. Paulo 1.

Phytophaga see *Mayetiola*.

Trichomyia maculata sp. n. Japan in 24 pp. figs., SASAKI Tokyo 1931.

Triommata gen. n. p. 205, *coccotroctes* sp. n. Sierra Leone p. 206 figs., BARNES Bull. Ent. Res. 22.

Urosema mori sp. n. Japan in 24 pp. figs., SASAKI Tokyo 1931.

MYCETOPHILIDAE (FUNGIVORIDAE, LYCORIDAE, SCIARIDAE).

Mycetophilidae from the Bolivian Chaco, EDWARDS Konowia 10 pp. 76-78.

Mycetophilidae from Sumatra, EDWARDS Tijdschr. Ent. 74 pp. 262-278, 14 figs.

Allophallus gen. n., *nigrobasis* (type), *fumigatus* spp. n. no locality (Europe) p. 3 figs., DZIEDZICKI Discipl. biol. Arch. Soc. sci. Varsav. 1 1923 fasc. 15.

Anatella turi Russia, *novata* p. 4, *aberrans*, *lenis* p. 5, *simpatica*, *longisetosa* p. 6 Germany, spp. n. figs. DZIEDZICKI t.c.

Apemon similis p. 22, *manteri* p. 23, spp. n. U.S.A. figs., JOHNSON Psyche 38.

Ceroplastus innotatus p. 262, *nigrescens* p. 263, spp. n. Sumatra figs., EDWARDS Tijdschr. Ent. 74.

Delopsis sumatrensis sp. n. Sumatra p. 268, EDWARDS t.c.—*D. aterrima* biology pp. 67-73 figs., BROCKER Rev. suisse Zool. 38.

Epicrypta testacea, *punctum* anatomy, biology pp. 69-73 figs., KINEL & NOSKIEWICZ Polsk. Pismo ent. 10.—*E. longiseta* sp. n. Sumatra p. 268, EDWARDS Tijdschr. Ent. 74.

Eudicrana vittata p. 257, *claripennis* p. 258, spp. n. Peru, EDWARDS Ann. Mag. N.H. (10) 7.

Heteropygium gen. n. p. 1, *janickii* sp. n. Poland p. 2 figs., DZIEDZICKI Discipl. biol. Arch. Soc. sci. Varsav. 1 1923 fasc. 15.

Hybosciara formosana sp. n. Formosa p. 309 [English description], SHIRAKI Spec. Rep. Formosa Agric. Expt. Sta. 8 1913.

Leiella zonalis sp. n. Br. Guiana p. 259, EDWARDS Ann. Mag. N.H. (10) 7.

Leptomorphus walkeri biology pp. 73-76 fig., BROCKER Rev. suisse Zool. 38.

Lyprauta subgen. n. see *Platyura*.

Macrocera unidens sp. n. Peru p. 255, EDWARDS Ann. Mag. N.H. (10) 7.

Megalosphys humeropicta sp. n. Rio de Janeiro p. 253 fig., LENGERSDORF Zool. Anz. 96.

Mycetophila reversa sp. n. Sumatra p. 267, EDWARDS Tijdschr. Ent. 74.

Mycomyia medialis p. 264, *dizonalis*, *caudalis* p. 265, *defectiva*, *minutata* p. 266, spp. n. Sumatra figs., EDWARDS t.c.—*M. klossi* sp. n. Borneo p. 488, EDWARDS J. F.M.S. Mus. 16.—*M. peruviana* sp. n. Peru p. 258, EDWARDS Ann. Mag. N.H. (10) 7.

Neosciara röderi sp. n. Bear Is. p. 65 fig., LENGERSDORF Zool. Anz. 94.

Peyerimhoffia oxyura sp. n. Sumatra p. 270 fig., EDWARDS Tijdschr. Ent. 74.

Phorodonta nyctoptera p. 272, *fimbripes* p. 273, spp. n. Sumatra, EDWARDS t.c.

Platosciara longipennis sp. n. Bear Is. p. 66 fig., LENGERSDORF Zool. Anz. 94.

Platyura xanthina, *limpidapex* spp. n. Borneo p. 487, EDWARDS J. F.M.S. Mus. 16.—*P. variventris* Bolivia p. 76 (*Lyprauta* subgen. n.) *chacoensis* N. Argentina, *defecta* Grenada p. 77, spp. n., EDWARDS Konowia 10.—*P. xanthocera*, *batesi* spp. n. Brazil p. 256, EDWARDS Ann. Mag. N.H. (10) 7.

Rhymosia pilosa sp. n. Peru p. 259, EDWARDS t.c.

Rhynchomegalosphys gen. n. p. 251, *aethiops* sp. n. Madagascar p. 252 fig., LENGERSDORF Zool. Anz. 96.

Rhynchosciara proboscidea sp. n. "Wash." [sic] p. 254, LENGERSDORF Zool. Anz. 96.

Sceptonia collaris sp. n. Sumatra p. 269, EDWARDS Tijdschr. Ent. 74.

Sciara sex determination pp. 225–253, METZ & SCHMUCK Genetics 16.—*S. coprophila* chromosomal differences between germ cells and soma pp. 119–124 fig., METZ Biol. Zbl. 51.—*S. nitidicollis* morphology, biology pp. 1009–1026 figs., THOMAS Proc. Zool. Soc. Lond. 1930.—*S. surinamensis* sp. n. Dutch Guiana p. 254 fig., LENGERSDORF Zool. Anz. 96.—*S. horribilis* p. 274, *nitulina* p. 275, *tetraleuca*, *jacobsoni* p. 276, *infantula* p. 277, *curvispina* p. 278, spp. n. Sumatra figs., EDWARDS Tijdschr. Ent. 74.

Zygoneura setimedia sp. n. Sumatra p. 271 fig., EDWARDS t.c.

BIBIONIDAE, SCATOPSIDAE.

Discussion of positions of *Plecia*, *Pachyneura*, *Hesperinus*, ALEXANDER Bull. Brooklyn Ent. Soc. 26 p. 8.

Bibionidae and Scatopsidae from Sumatra, EDWARDS Tijdschr. Ent. 74 p. 279–280.

Bibionidae from the Bolivian Chaco, EDWARDS Konowia 10 p. 75–76.

Bibio japonica ecology pp. 422–430 [in Japanese], HORI & YAMAGUCHI Dobuts. Zasshi 42 1930 pp. 422–430. [Cf. Jap. J. Zool., Tokyo 3 1931 p. (114).]

Cramptonomyia gen. n. (Bibionidae) p. 7, *spenceri* sp. n. Br. Columbia p. 8 figs., ALEXANDER Bull. Brooklyn Ent. Soc. 26.

Plecia pictipennis, *nitidicollis* spp. n. Brazil p. 260, EDWARDS Ann. Mag. N.H. (10) 7.—*P. lindneri* sp. n. Bolivia p. 75, EDWARDS Konowia 10.—*P. borneensis* sp. n. Borneo p. 489 fig., EDWARDS J. F.M.S. Mus. 16.

Scatopse curvata sp. n. Borneo p. 490 fig., EDWARDS t.c.

ANISOPODIDAE (PHRYNEIDAE,

RHYPHIDAE) (including

PACHYNEURIDAE).

Anisopodidae of Sumatra, EDWARDS Tijdschr. Ent. 74 p. 280.

Mesochria intermedia sp. n. Borneo p. 491, EDWARDS J. F.M.S. Mus. 16.

SIMULIIDAE.

Simuliidae of Patagonia and S. Chile with a revised classification, EDWARDS Dipt. Patag. & S. Chile 1931 pt. 2 pp. 121–154, 13 figs.

Classification of Simuliidae, ENDERLEIN Deuts. Tier. Wochenschr. 29 1921 pp. 197–200.

List of and key to the Simuliids of the Leine valley, Germany, ENDERLEIN Arch. wiss. prakt. Tierhkl. 63 pp. 479–492, 11 figs.

Larva and pupa of an undescribed Simuliid, RITCHER Ent. News 42 pp. 241–246, 1 pl.

Anasolen see *Simulium*.

Astega see *Simulium* (*Cnephia*).

Austrosimulium see *Simulium*.

Boophthora gen. n. type *argyreata* Mg. p. 199, ENDERLEIN Deuts. Tier. Wochenschr. 29 1921.—See *Simulium*.

Byssodon see *Simulium*.

Chirostilbia gen. n. type *flavifemur* End. p. 199, ENDERLEIN t.c.—See *Simulium*.

Cnephia gen. n. type *Simulium peculiarum* Ril. p. 199, ENDERLEIN t.c.

Cnetha gen. n. type *latipes* Mg. p. 199, ENDERLEIN t.c.—See *Simulium* (*Eusimulium*).

Discosphyria see *Simulium*.

Ectemnia see *Simulium* (*Cnephia*).

Edwardsellum gen. n. type *damnosum* Theo. p. 199, ENDERLEIN t.c.—See *Simulium*.

Friesia see *Simulium*.

Gomphostilbia gen. n. type *ceylonica* End. p. 199, ENDERLEIN t.c.—See *Simulium*.

Gynonychodon see *Simulium*.

Hellichia see *Simulium* (*Cnephia*).

Helodon gen. n. for *Simulium ferrugineum* Wahlgr. p. 199, ENDERLEIN t.c.—See *Simulium* (*Prosimulium*).

Mallochella see *Simulium* (*Cnephia*).

Nevermannia gen. n. type *annulipes* Beck. p. 199, ENDERLEIN t.c.—See *Simulium* (*Eusimulium*).

Notolepria see *Simulium*.

Odagmia gen. n. type *ornata* Mg. p. 199, ENDERLEIN t.c.—See *Simulium*.

Pseudodagmia subgen. n. see *Simulium*.

Pseudonevermannia subgen. n. see *Simulium*.

Pseudosimulium subgen. n. see *Simulium*.

Pternaspatha see *Simulium*.

Schönbaueria gen. n. type *matthiesseni* End. p. 199, ENDERLEIN t.c.—See *Simulium* (*Eusimulium*).

Simulium descriptions and notes on spp. from the Chiapas Zone in Mexico 31 sep. pp. figs., HOFFMANN *Salubridad* 1930 no. 3; morphology, biology pp. 543–599, WU Pap. Mich. Acad. Sci. 13. —*S. avidum*, *virgatum* var. *chiapanense*, *mooseri*, *ochraceum* larval, pupal characters pp. 207–218 figs., HOFFMANN *An. Inst. Biol. Univ. Mexico* 2. —*S. venefica* sp. n. Germany p. 172, FRIEDERICH *Deuts. Tier. Wochenschr.* 29 1921. —*S.* (subgen. n. *Pseudosimulium* type *argyreatum* Mg., *Pseudodagmia* type *variegata* Mg., *Pseudonevermannia* type *latipes* Mg.) p. 164, BARANOFF *N. Beitr. syst. Insektenk.* 3 1926. —*S.* key to subgen. p. 126, subgen. *Prosimulium* Roub. (= *Helodon* End., *Taeniopterna* End.) p. 127; subgen. *Gigantodax* characters p. 129, key p. 131, *nigrescens*,

brophyi p. 133, *rufescens* p. 134, *femineum* p. 135, *shannoni* p. 137, *rufinotum*, *marginale* p. 140, *aracanicum* spp. n.; *Austrosimulium* a subgen. p. 142; subgen. *Cnephia* End. (= *Hellichia* End., *Astega* End., *Ectemnia* End., *Stegopterna* End., *Mallochella* End.) p. 144, *dissimile* p. 145, *gynandrum* p. 147, *atroparvum* p. 148 spp. n.; subgen. *Eusimulium* Roub. (= *Cnetha* End., *Nevermannia* End., *Schönbaueria* End., *Pseudonevermannia* Baran.) characters, *aureum* Fries (= *annulipes* Beck.) type, p. 149; *costatum* Fried. (= *obtusum* Dyar & Shann.); subgen. *Simulium* s. str. (= *Boophthora* End., *Chirostilbia* End., *Edwardsellum* End., *Gynonychodon* End., *Odagmia* End., *Wilhelmia* End., *Gomphostilbia* End., *Stilboplax* End., *Friesia* End., *Discosphyria* End., *Byssodon* End., *Pseudosimulium* Baran., *Pseudodagmia* Baran., *Pternaspatha* End., *Anasolen* End., *Notolepria* End.) p. 150, *memorale* sp. n. p. 152 S. America figs., EDWARDS *Dipt. Patag. & S. Chile* 1931 pt. 2.

Stegopterna see *Simulium* (*Cnephia*).

Stilboplax gen. n. type *speculiventris* End. p. 199, ENDERLEIN *Deuts. Tier. Wochenschr.* 29 1921.—See *Simulium*.

Taeniopterna see *Simulium* (*Prosimulium*).

Wilhelmia gen. n. type *lineata* Mg. p. 199, ENDERLEIN t.c.—See *Simulium*.

BLEPHAROCERIDAE.

Biology of Blepharoceridae, BISCHOFF *Verh. int. Ver. Limnol. Kiel* 1 (1922) 1923 pp. 222–234.

Revision of Blepharoceridae of Japan (biology, descriptions of larvae and pupae pp. 69–104), KITAKAMI *Mem. Coll. Sci. Kyoto (B)* 6 pp. 53–108, 10 pls. 10 figs.

Notes on general form and habitats of Indian Blepharoceridae, HORA *J. Bombay N.H. Soc.* 35 pp. 342–346, 1 pl. 4 figs.

Bibiocephala infusata var. n. *minor* p. 75; *iyaensis*, *montana* spp. n. p. 78 (with var. n. *bispina* p. 80) Japan figs., KITAKAMI *Mem. Coll. Sci. Kyoto (B)* 6.

Blepharocera japonica sp. n. Japan p. 102 figs., KITAKAMI t.c.—*B. shirakii* see *Parablepharocera*.

Curupira uenoi sp. n. Japan p. 103 fig., KITAKAMI t.c.

Liponeura minor Bisch. (= *bischoffi* Edw.) p. 213, HETSCHKO Wien. ent. Ztg. 48.

Parablepharocera gen. n. type *Blepharocera shirakii* Alexander p. 98 figs., KITAKAMI Mem. Coll. Sci. Kyoto (B) 6.

Phylorus bilobatoideus p. 81 (with var. *n. longispina*), *alpinus* p. 83, *kibunensis* p. 85, *ezoensis* p. 86, *kuyaensis* p. 87, *sikokuensis* p. 89, *simasimensis* p. 90, *longirostris* p. 91 (with var. *n. minor*), *chosenensis* p. 93, *vividis* p. 95, spp. n. Japan figs., KITAKAMI t.c.

CERATOPOGONIDAE.

Ceratopogonidae of Patagonia and S. Chile, INGRAM & MACFIE Dipt. Patag. & S. Chile 1931 pt. 2 pp. 155-232, 21 figs.

Atrichopogon Kieff. (= *Lophomyidium* Cord.) p. 172, key, *obfuscatus* p. 173, *obnubilus*, *chilensis* p. 175, *assimilis* p. 176, *albinensis* p. 228, *mendozae* p. 229, spp. n. S. America, INGRAM & MACFIE Dipt. Patag. & S. Chile 1931 pt. 2.—*A. vestitipennis* further description p. 200 fig., INGRAM & MACFIE Ann. Trop. Med. Parasit. 25.—*A. infuscus* blood-sucking habits p. 1, VOGEL Zool. Anz. 93.

Bezzia hungarica sp. n. Hungary p. 190 figs., SEBESS v. ZILAH Arb. Ung. biol. Forsch. Inst., Tihany 3 1930 no. 2.

Culicoides morphology of mouth-parts and male terminalia of an Indian sp. p. 1054, key to some Indian spp. p. 1056; *clavipalpis* sp. n. India p. 1052, MUKERJI Ind. J. Med. Res. 18.—*C. Latr.* (= *Oecacta* Poey) *hostilissimus* Pitt. further description p. 674; *grahami* Aust. distinct p. 676 figs., GIL COLLADO Bull. Soc. Path. exot. 24.—*C.* morphology of ♀ pharynx, taxonomic importance, pp. 339-340 figs., MUKERJI Nature 127.—*C. riethi* Kieff. not a synonym of *nubeculosus* Mg. new to Britain p. 1, EDWARDS Entomologist 64.—*C. sugimotoi* p. 289, *taivanus* p. 293, *maculatus* p. 296, spp. n. Formosa [English descriptions], SHIRAKI Spec. Rep. Formosa Agric. Expt. Sta. 8 1913.—*C. hostilissimus*, *grahami* distinguishing characters pp. 236-240 figs., GIL COLLADO Medic. Paises Calid. 4.

Dasyhelea key to larvae and pupae p. 104, THIENEMANN Mitt. geogr. Ges. Lübeck (2) 31 1926; vitality of larva when deprived of moisture p. 265 figs.,

GELEI Arb. Ung. biol. Forsch. Inst. 3 1930.—*D.* life-history pp. 310-320, *geleiana* sp. n. Hungary p. 321 figs., SEBESS v. ZILAH Arch. Hydrobiol. 23.—*D.* status, key p. 177, *brevipalpis* p. 178, *andensis* p. 180, *patagonica* p. 182, *shannoni* p. 183, *reynoldsi* p. 185, *chilensis* p. 186, *albopicta* p. 187, *monticola* p. 188, *lacustris* p. 190 spp. n. S. America figs., INGRAM & MACFIE Dipt. Patag. & S. Chile 1931 pt. 2.

Diaphanobezzia gen. n., *pellucida* sp. n. S. America p. 223 figs., INGRAM & MACFIE t.c.

Forcipomyia Kieff. (= *Tetrastoma* Phil.) pp. 157, 177, key, *multipicta* p. 157, *maculosa* p. 159, *edwardsi* p. 160, *patagonica* p. 165, *caliginosa* p. 167, *zonogaster* p. 168, *limnetis* p. 169, *poulaineae* p. 227, spp. n. S. America; *chilensis* p. 163, *squamosa* p. 226, further descriptions figs., INGRAM & MACFIE t.c.—*F. parvicellula* p. 195, *tapleyi* p. 196, spp. n. New Zealand; *antipodum* further description p. 197 fig., INGRAM & MACFIE Ann. Trop. Med. Parasit. 25.—*F. randensis* sp. n. Transvaal p. 335 figs., DE MEILLON Trans. Ent. Soc. Lond. 79.

Isthmohelea gen. n. p. 208, *disjuncta* sp. n. S. America p. 209 figs., INGRAM & MACFIE Dipt. Patag. & S. Chile 1931 pt. 2.

Johannsenomyia latifemoris sp. n. Buenos Aires p. 231, INGRAM & MACFIE t.c.

Lasiohelea shannoni sp. n. S. America p. 171, INGRAM & MACFIE t.c.

Lophomyidium see *Atrichopogon*.

Macroptilum characters distinguishing from *Stenoxenus* p. 209 figs., SÉGUY Bull. Soc. ent. Fr. 1931.—*M. longipes* p. 645, *nigrum* Zambesi, *pallidipes* Madagascar p. 646, spp. n. figs., SÉGUY Bull. Mus. Paris (2) 2 (1930).

Macrurohelea gen. n. p. 203, *caudata* (type) p. 205, *thoracica* p. 206, spp. n. S. America figs., INGRAM & MACFIE Dipt. Patag. & S. Chile 1931 pt. 2.

Monohela antipodalis sp. n. New Zealand p. 205 fig., INGRAM & MACFIE Ann. Trop. Med. Parasit. 25.

Neurohelea oedidactyla p. 212, *turgidipes* p. 214, spp. n. S. America, INGRAM & MACFIE Dipt. Patag. & S. Chile 1931 pt. 2.

Oecacta see *Culicoides*.

Palpomyia key, *aculeata* p. 215, *subfuscata* p. 216, *chilensis* p. 218, *apricans* p. 219 (with var. *n. senior*), *patagonica* p. 222, *maculicrus* p. 230, spp. n. S. America, INGRAM & MACFIE Dipt. Patag. & S. Chile 1931 pt. 2.—*P. cantuariis* sp. n. New Zealand p. 207, INGRAM & MACFIE Ann. Trop. Med. Parasit. 25.

Probezzia algarum sp. n. Hungary p. 186 figs., SEBESS v. ZILAH Arb. Ung. biol. Forsch. Inst., Tihany 3 1930 no. 2.

Stenoxenus characters distinguishing from *Macroptilum* p. 209, *coomani* sp. n. Tonkin p. 210 figs., SÉGUY Bull. Soc. ent. Fr. 1931.

Stilobezzia key, *varia* p. 191, *ornaticrus* p. 194, *bicinctipes* p. 195, *nigerrima*, *patagonica* p. 196, *edwardsi* p. 198, *furva*, *succinea* p. 200, *hirsuta* p. 201, *rava* p. 203, spp. n. S. America figs., INGRAM & MACFIE Dipt. Patag. & S. Chile 1931 pt. 2.—*S. ohakunei* p. 202, *antipodalis* p. 203, spp. n. New Zealand fig., INGRAM & MACFIE Ann. Trop. Med. Parasit. 25.

Tetrphora see *Forcipomyia*.

CHIRONOMIDAE.

Notes on some Chironomids from U.R.S.S., GOETGHEBUER Arb. biol. Sta. Kossina 11 1930 pp. 3-4, 5 figs.

Chironomid larvae associated with watersnails, HOFFMANN Bull. Brooklyn Ent. Soc. 26 pp. 71-74.

List of salt-water Chironomidae, LENZ Mitt. geogr. Ges. Lübeck (2) 31 1926 pp. 153-169, 2 figs.

Chironomidae of the bottom fauna of Usma Sea in Kurland, PAGAST Folia zool. hydrobiol. 3 pp. 199-248, 2 pls.

Chironomus bonarensis biology pp. 514-520 figs., MACDONAGH 6. Reun. Soc. argent. Pat. reg. Norte 1931.—*C. viridicollis* toxic action of sea-water on larva pp. 248-263, KOIDZUMI J. Soc. Trop. Agric. Formosa 3.—*C. liebeli-bathophilus*, *plumosus* biology, distribution, physiology pp. 108-143 graphs, THIENEMANN Verh. int. Ver. Limnol. Kiel 1 (1922) 1923.—*C. balticus* p. 216, *usmaensis* p. 219, spp. n. Kurland figs., PAGAST Folia zool. hydrobiol. 3.—*C. dorsalis* var. n. *islandicus* Iceland p. 278, GOETGHEBUER Zool. Bidr. Uppsala 13.—*C. flaveolus* var. n. *fuscolineatus*;

decksbachi sp. n. Russia p. 3 fig., GOETGHEBUER Arb. biol. Sta. Kossino 11 1930.

Cryptochironomus atripectus sp. n. Russia p. 4 fig., GOETGHEBUER t.c.

Diamesa lindrothi sp. n. Iceland p. 281 fig., GOETGHEBUER Zool. Bidr. Uppsala 13.

Glyptotendipes singularis sp. n. Russia p. 3 fig., GOETGHEBUER Arb. biol. Sta. Kossina 11 1930.

Kohlium gen. n. for *Ochilus steineni* Gercke p. 244 figs., ENDERLEIN SitzBer. Ges. naturf. Fr. Berl. 1930.

Metriocnemus ampullaceus austriacus systematic notes p. 222, SPÄRK & THIENEMANN Verh. int. Ver. Limnol. Innsbruck, Stuttgart 2 (1923) 1924.

Micropsectra lindrothi sp. n. Iceland p. 278 fig., GOETGHEBUER Zool. Bidr. Uppsala 13.

Ochilus steineni see *Kohlium*.

Orthocladus bonolai sp. n. Spitzbergen p. 135 fig., GOETGHEBUER Boll. Zool. Naples 2.

Polypedilum amoenum sp. n. Russia p. 4 fig., GOETGHEBUER Arb. biol. Sta. Kossino 11 1930.

Psectrocladius barbimanus var. n. *obscurus* Iceland p. 284, GOETGHEBUER Zool. Bidr. Uppsala 13.

Tanytarsus usmaensis sp. n. Kurland p. 232; *mancus*, *atridorsum* distinguished p. 235 figs., PAGAST Folia zool. hydrobiol. 3.—*T.* biology and morphology of group *genuinus-inermipes* pp. 168-180 figs., MORETTI Atti Soc. ital. Milano 70.—*T. islandicus* sp. n. Iceland p. 280 fig., GOETGHEBUER Zool. Bidr. Uppsala 13.

Trichotanyptus islandicus sp. n. Iceland p. 277 fig., GOETGHEBUER t.c.

CULICIDAE.

Culicid fauna of the Republic of Azerbaijan, ACHUNDOW Arch. Schiffs. u. Tropenhyg. 35 pp. 671-677, 3 figs.

Anopheline and Culicine mosquitos from Siam, BARRAUD & CHRISTOPHERS Rec. Malaria Surv. Ind. 2 pp. 269-285.

A migration of mosquito larvae, BISHOP & HAET Bull. Brooklyn Ent. Soc. 26 pp. 88-90.

Notes on Macedonian Culicids, BRAGINA Arch. Schiffs- u. Tropenhyg. **35** pp. 345-353, 3 figs.

Culicidae from the Sunda Is., BRUG Arch. Hydrobiol. Suppl. **9** pp. 1-42, 1 pl. 74 figs.

Culicidae of Sumatra, BRUG & EDWARDS Tijdschr. Ent. **74** pp. 241-261, 1 map.

Mosquitos of Guayaquil and environs, CAMPOS Rev. Col. Rocafuerte no. **40-41** pp. 3-11.

Culicids of Greece, particularly Athens, CARDAMATIS Bull. Soc. Path. exotique **24** pp. 122-131, 4 figs.

Hibernation and wintering of Anophelines in the Punjab, CHOWDHURY Rec. Malaria Surv. Ind. **2** pp. 407-421.

Studies on the Anopheline fauna of India, parts i-iv, CHRISTOPHERS Rec. Malaria Surv. Ind. **2** pp. 305-332, 3 maps.

Additional records 1926-1930 of distribution of Anophelines in India and Ceylon, COVELL Rec. Malaria Surv. Ind. **2** pp. 225-268.

The grouping of the larvae of S. African Anophelines, DE MEILLON Bull. Ent. Res. **22** p. 237.

Morphological notes on Culicines from Gabun, GALLIARD Ann. Parasit. hum. comp. **9** pp. 225-232, 514-529, 13 figs.

List of Culicids of Peiping, HO Bull. Fan. Mem. Inst. Biol. **2** pp. 107-175, 16 figs.

Key to genera of Ethiopian mosquito larvae, HOPKINS Bull. Ent. Res. **22** p. 103.

The mosquito fauna of Georgia, U.S.S.R., KALANDADZE Arch. Schiffs- u. Tropenhyg. **35** pp. 110-113.

Biological and ecological notes on Anophelines and Culicines of S. Rhodesia 1926-28 (keys pp. 43, 46), LEESON Mem. Lond. Sch. Hyg. Trop. Med. no. **4** 55 pp. 15 pls. 10 figs.

Revision of Culicidae of Palaearctic Region (contd.), MARTINI in LINDNER Flieg. Pal. Reg. **11** and **12** pp. 321-398, 70 figs.

Convergence and correlation in adult Culicids, MARTINI Zool. Anz. **93** pp. 239-262 fig.

Culicidae from the Bolivian Chaco, MARTINI Konowia **10** pp. 116-120.

List of mosquitos collected in Nigeria, PHILIP Proc. Ent. Soc. Wash. **33** pp. 44-47.

Descriptions of Indian Anopheline larvae, PURI Ind. Med. Res. Mem. **21** 227 pp. 47 pls.

Notes on pupae of Culicids, particularly European and Mediterranean spp., SENEVET C.R. 2^e Congr. int. Paludisme Alger 1930 **1** pp. 69-154, 48 figs.

List of Argentine Culicidae, SHANNON **6**. Reun. Soc. argent. Pat. reg. Norte pp. 494-500.

Classification of Brazilian Culicidae, with keys, SHANNON Proc. Ent. Soc. Wash. **33** pp. 125-164, 7 pls.

The environment and behaviour of some Brazilian mosquitos, SHANNON Proc. Ent. Soc. Wash. **33** pp. 1-27.

Anopheline larvae of the countries from India and the Orient to the Antipodes, STRICKLAND & CHOWDHURY Calcutta, Thacker, Spink & Co. Ltd. 1931 36 pp. 9 pls.

Notes on the biology of mosquitos of eastern Canada, TWINN Proc. 18th Ann. Mtg. New Jersey Mosq. Exterm. Assoc. pp. 10-22.

Aedes studies on larvae in S.W. Nigeria pp. 65-74, key p. 67 figs., KUMM Bull. Ent. Res. **22**.—*A. (Stegomyia)* notes on some Indian spp. pp. 221-227, *novalbopictus* p. 224, *subalbopictus* p. 225, *purii* p. 226, *ibis* p. 610, *simulatus* p. 611, *yusafi* p. 612, *agrestis* p. 613, *clavatus*, *abditus* p. 614, *comatus* p. 615, spp. n. India figs., BARRAUD Ind. J. Med. Res. **19**.—*A. prioeakanensis* p. 249, *dermajoenensis* p. 250, spp. n. Sumatra figs., BRUG Tijdschr. Ent. **74**.—*A. harveyi* var. n. *nigrorhynchus* Sunda Is. p. 28; *kochi*, *poicilia* p. 22, *harveyi* p. 26 larvae figs., BRUG Arch. Hydrobiol. Suppl. **9**.—*A. fasciata* morphology of 4th stage larva pp. 393-419 figs., SALEM Ann. Trop. Med. Parasit. **25**; (*aegypti*) salivary gland poison pp. 806-809, MCKINLEY Proc. Soc. Exptl. Biol. Med. **26** 1929. — *A. sylvestris* egg-laying habits pp. 105-111, MILLER Proc. 17th Ann. Mtg. N.J. Mosq. Exterm. Ass. 1930. — *A. leucocelaenus* further description p. 202; *oroecetor* p. 204, *van emdeni* p. 208, spp. n. Bolivia figs., MARTINI Rev. Ent. S. Paulo **1**.

Aëdomyia fufurea larva p. 92 figs., HOPKINS Bull. Ent. Res. 22.

Anopheles spp. internal anatomy pp. 75-96, PERFILEV Mag. Paras. Mus. Zool. Sci. U.R.S.S. no. 1 1930 [Abst. in Bull. Inst. Pasteur Paris 29 1931 p. 892]; larvae, pupae, breeding habits of *N. China* spp. pp. 493-512 figs., FENG Nat. Med. J. China 17; key to known eggs of Indian spp. p. 170, descriptions of eggs pp. 171-185 figs., CHRISTOPHERS & BARAUD Rec. Malaria Surv. India 2; list of Indian spp. with distribution and breeding places pp. 139-142, CHRISTOPHERS, SINTON & COVELL Health Bull. no. 14; long-range dispersion during prehibernating period pp. 242-255 figs., KLIGLER & MER C.R. 2^e Congr. int. Paludisme Alger 1930 1; flying radius pp. 12-25, AVÉ LALLEMANT, SOERONO & SOEKARIA Meded. Dienst Volksgezondh. Ned.-Ind. Foreign edn. 20; flight pp. 226-241, MARTINI C.R. 2^e Congr. int. Paludisme Alger 1930 1; daytime resting places pp. 639-649 figs., RUSSELL Philipp. J. Sci. 46.—*A.* spp. and var. of *funestus* series pp. 481-493 figs., CHRISTOPHERS & PURI Rec. Malaria Surv. Ind. 2.—*A. incognitus* sp. n. Dutch New Guinea p. 136 fig., BRUG Geneesk. Tijdschr. Ned.-Ind. 71.—*A.* (*Pyrethrophorus*) *atheniensis* sp. n. Greece p. 129 figs., CARDAMATIS Bull. Soc. Path. exotique 24.—*A. aikenii* var. *n. britanniæ* no locality pp. 2, 12; (*Bironella*) *soesiloi* sp. n. no locality pp. 9, 12 figs., STRICKLAND & CHOWDHURY Anopheline larvae from India . . . 1931.—*A. schüffneri* ♂ p. 124 fig., SOESILO & VAN SLOOTEN Meded. Dienst Volksgezondh. Ned.-Ind. 20; also in Dutch in Geneesk. Tijdschr. Ned.-Ind. 71 p. 1254.—*A. aconitus* var. *n. tonkinensis* Tonkin p. 576, TOUMANOFF C.R. Soc. Biol. 107.—*A. tonkinensis* a var. of *jeyporiensis* not *aconitus*, morphology pp. 958-967 figs., TOUMANOFF Bull. Soc. Path. exot. 24.—*A. gigas* p. 317, *lindesayi* p. 321 varietal forms; *maculatus* variation p. 323, CHRISTOPHERS Rec. Malaria Surv. Ind. 2.—*A. rhodesiensis* (adult p. 1155, larva p. 1156), *dthali* distinct spp., differences, distribution pp. 1133-1138; *theileri* pp. 1138, 1159, *gambiae* pp. 1144, 1161, *smithii* pp. 1146, 1164 characters, larvae figs., CHRISTOPHERS & PURI Ind. J. Med. Res. 18.—*A. separatus*, *hunteri* status, diagnosis pp. 770-775, STRICKLAND Geneesk. Tijdschr. Ned.-Ind. 71.

—*A. montanus* larval and adult morphology pp. 1206-1209 figs., STOKER Geneesk. Tijdschr. Ned.-Ind., Batavia 71; also in English in Meded. Dienst Volksgezondh. Ned.-Ind., Batavia 20 pp. 129-132, 4 figs.—*A. stephensi* natural breeding habits pp. 617-628; ovulation pp. 629-634; breeding habits in laboratory pp. 635-639, ROY Ind. J. Med. Res. 19.—*A. elutus* bionomics pp. 137-145 figs., MER Bull. Ent. Res. 22.—*A. listeri* sp. n. Natal p. 482, DE MEILLON J. Med. Assoc. S. Africa 5.—*A. bifurcatus* biological notes; *algeriensis* in Germany, discussed pp. 109-110 fig., MARTINI Anz. Schädlingkunde, Berlin 7.—*A. funestus* maturation of ova pp. 363-369 fig., MANALANG Philipp. J. Sci. 46.—*A. maculipennis*, *bifurcatus* biology N. Caucasus pp. 145-154, APRIAMOW Trav. Sta. biol. Caucase Nord 3 1930.—*A. maculipennis*, *bifurcatus* geographical and biological studies in Sweden pp. 256-276 figs., EKBLOM & STRÖMAN C.R. 2^e Congr. int. Paludisme Alger 1930 1.—*A. barbirostris-hyrcanus* group in Philippines pp. 425-448 figs., BAISAS Philipp. J. Sci. 44.—*A. gigas* list of var. p. 752, var. *formosus* larva p. 751, ♂ genitalia p. 753; *lindesayi* list of var. p. 754, var. *n. benguetensis* Philippines p. 753 figs., KING Philipp. J. Sci. 46.—*A. gambiae* in Aldabra Is., Seychelles pp. 643-654 figs., HERMITTE Rec. Malaria Surv. Ind. 2.—*A. natalensis*, *ardensis* p. 239, *squamosus* p. 240, *theileri* p. 241 larvae figs., DE MEILLON Bull. Ent. Res. 22.—*A. shannoni* sp. n. Brazil p. 345 figs., DAVIS Amer. J. Hyg. 13.—*A.* illustrated keys to the full-grown larvae and adults of S. African spp. pp. 275-375, *squamosus* var. *n. cydippis* on larval characters S. Africa p. 318 figs., DE MEILLON Pub. S. Afr. Inst. Med. Res. 28.—*A. maculipennis* critical resumé of literature on rr. pp. 707-733, MARTINI Arch. Schiffs- u. Tropenhyg. 35; notes on rr. in low countries pp. 293-300, DE BUCK, SCHOUTE & SWELLENGREBEL C.R. 2^e Congr. int. Paludisme Alger 1930 1; phenology pp. 109-119 figs., KALMYKOV Bull. Inst. Contr. Pests Dis. 1; variation in eggs pp. 32-44 fig., ALPATOV & BACHVALOVA Rev. zool. russe 10 no. 4 1930; problem of races pp. 622-643 figs., MARTINI, MISSIROLI & HACKETT Arch. Schiffs- u. Tropenhyg. 35; biology pp. 277-288 figs., S. & E. DE BUEN C.R. 2^e Congr. int. Paludisme Alger 1930 1; pp. 1-42 figs., ROUBAUD

Riv. Malariol. 10; effects of various coloured surroundings on size and colour pp. 208-227 figs., VAN THIEL Arch. Schiffs- u. Tropenhyg. 35; larval biology pp. 336-345, WARASI Arch. Schiffs- u. Tropenhyg. 35.—*A. sacharovi* biology 1 1930 p. 27; *maculipennis* food of larvae 2 p. 27, BRIGHENTI Boll. Zool.—*A. marshalli* var. *n. keniensis* Kenya p. 130; *hargreavesi* Ev. p. 131, *moucheti* Ev. p. 136 not varr. of *marshalli*, further descriptions; *moucheti* var. *n. nigeriensis* S. Nigeria p. 138; *obscurus* early stages p. 139; *costalis* melanic coastal race S. Nigeria pp. 443-453; *funestus* seasonal variation p. 548, subsp. *n. lesoni* S. Rhodesia p. 546, figs., EVANS Ann. Trop. Med. Parasit. 25.—*A.* key to Panama spp. of *Arribalzagia* group p. 646, *neomaculipalpus* sp. n. Panama p. 645; *argyritarsis* recognition by ♂ genitalia p. 648 figs., CURRY Amer. J. Hyg. 13.

Armigeres foliatus sp. n. Sumatra p. 32 figs., BRUG Arch. Hydrobiol. Suppl. 9.

Bironella de rooki sp. n.; *papuae* var. *n. brugi* New Guinea; *soesiloi* ♂ hypopygium fig. p. 126 figs., SOESILO & VAN SLOOTEN Meded. Dienst Volksgezondh. Ned.-Ind. 20; also in Dutch in Geneesk. Tijdschr. Ned.-Ind. 71 pp. 1254-1259, 7 figs.

Chagasia fajardoi Lutz (= *bonneae* Root) p. 153, SHANNON Proc. Ent. Soc. Wash. 33.

Culex alticola sp. n. Bolivia p. 216, MARTINI Rev. Ent. S. Paulo 1.—*C. arabica* sp. n. Sokotra I. p. 140, BECKER Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.—*C. tritaeniorhynchus* var. *n. siamensis* Siam p. 283, BARRAUD & CHRISTOPHERS Rec. Malaria Surv. Ind. 2.—*C. quasigelidus* p. 95, *hancocki* p. 96, *andersoni* p. 98, *guiarti*, *ingrami* p. 99, *nebulosus* p. 100, *cinereus* p. 102 larvae figs., HOPKINS Bull. Ent. Res. 22.—*C. diengensis* sp. n. Java p. 35 figs., BRUG Arch. Hydrobiol. Suppl. 9.—*C. sumatranus* sp. n. Sumatra p. 248 fig., BRUG Tijdschr. Ent. 74.—*C. pipiens* autogenesis pp. 384-387, ROUBAUD Bull. Soc. Path. exot. 24; biology, histo-physiology pp. 281-431 figs., BOISSEZON Arch. Zool. exp. gén. 70 1930; larval development at high temperatures p. 741 fig., NIESCHULZ & BOS Z. Parasitenk. 3.—*C. perfidiosus* larva fig. p. 226; *pruina* var. *n. eschirasi*

p. 227; *bitaeniorhynchus* var. *n. mayumbae* p. 228; *brumpti* Corsica p. 134, *nyangae* p. 230 spp. n.; *rima* var. *n. koumbai* p. 514 Gabun; *perfuscus* larva p. 517 figs., GALLIARD Ann. Parasit. hum. comp. 9.

Dendromyia schnusei sp. n. S. America p. 202, MARTINI Rev. Ent. S. Paulo 1.

Goeldia characters, notes pp. 65-68 figs., DA COSTA LIMA Mem. Inst. Oswaldo Cruz 25.—*G. leucopus* var. *n. hyperleuca* Peru p. 201, MARTINI Rev. Ent. S. Paulo 1.

Haemagogus uriartei var. *n. obscur-escens* Bolivia p. 212, MARTINI t.c.—*H. lindneri* sp. n. Bolivia p. 118; *uriartei* Shann. & Del Ponte further description p. 117, MARTINI Konowia 10.

Heizmannia pilosa sp. n. Sumatra p. 245 figs., BRUG Tijdschr. Ent. 74.

Isotomyia characters, notes pp. 65-68, *brevipes* sp. n. Brazil p. 68 figs., DA COSTA LIMA Mem. Inst. Oswaldo Cruz 25.

Joblotia characters, notes pp. 65-68 figs., DA COSTA LIMA t.c.—*J. splendens* var. *n. subsplendens* Peru p. 200, MARTINI Rev. Ent. S. Paulo 1.

Limatus durhami Theo. (= *exhibitor* Shann. & Del Pon.) p. 498, SHANNON 6. Reun. Soc. argent. Pat. reg. Norte.

Mansonia lynchi sp. n. Brazil p. 152, SHANNON Proc. Ent. Soc. Wash. 33.

Megarhinus early stages of Indian spp. pp. 1127-1132 figs., BARRAUD Ind. J. Med. Res. 18.—*M.* Brazil spp. pp. 307-315, *haemorrhoidalis* larval habits p. 308; *pusillus* sp. n. Brazil p. 313 figs., DA COSTA LIMA Mem. Inst. Oswaldo Cruz 25.—*M. hexacis* sp. n. Bolivia p. 217, MARTINI Rev. Ent. S. Paulo 1.

Miamyia monoleuca sp. n. N. Argentina p. 116, MARTINI Konowia 10.

Mimomyia mimomyiaformis larva p. 94 figs., HOPKINS Bull. Ent. Res. 22.

Mucidus africanus larva p. 89 figs., HOPKINS t.c.

Psorophora cyanescens Coq. (= *purpurascens* Edw.) p. 117, MARTINI Konowia 10.—*P. leucocnemis* sp. n. Uruguay p. 214, MARTINI Rev. Ent. S. Paulo 1.

Rachionotomyia aranoides larva p. 15; *plumosa* sp. n. Sumatra p. 18 figs., BRUG Arch. Hydrobiol. Suppl. 9.

Sabethes revision pp. 51-55, key p. 62, *belisarioi* Neiva (descr. Sept. 1908) (= *schausi* D. & K., *goeldii* H. D. & K., *argyronotum* Edw.) p. 52; *albiprivus* Lutz (= *neivai* Petroc.) p. 54, DA COSTA LIMA Mem. Inst. Oswaldo Cruz 25.

Sabethoides revision pp. 55-62, key p. 62, DA COSTA LIMA t.c.

Stethomyia lewisi sp. n. Brazil p. 154 fig., SHANNON Proc. Ent. Soc. Wash. 33.

Taeniorhynchus characters of subgen. *Cocquillettidia* p. 387, *aureosquamatus* p. 388, *ochraceus* p. 389, *giblini* p. 394, *crassipes* p. 396 further descriptions; *nigrochraceus* New Guinea, Sumatra p. 392, *memorans* New Guinea p. 393 spp. n. figs., BONNE-WEPSTER Meded. Dienst Volksgez. Ned.-Ind. 19 1930; also in Dutch in Gen. Tijdschr. Ned.-Ind. 71 pp. 260-276, 3 figs.—*T.* (sens. strict.) spp. scope; *trigonophorus* further description p. 366 fig., DA COSTA LIMA An. Mus. H. n. B. Aires 36.

Theobaldia annulata oviposition pp. 191-192, TEUBNER-PREDMERSKI Z. angew. Ent. 18.

Topomyia spp. larvae p. 8; *pilosa* sp. n. Sumatra p. 12 figs., BRUG Arch. Hydrobiol. Suppl. 9.

Toxorhynchites schultzei Fr. Congo p. 123, *tessmanni* Spanish Guinea p. 124, spp. n., ENDERLEIN Zool. Anz., Leipzig 94.

Uranotaenia revised key to Ethiopian spp. p. 185, key to African described larvae, pupae p. 187, *philonuxia* p. 188, *caliginosa* p. 190 spp. n. Nigeria; *coeruleocephala* Theo. distinct from *pallidocephala* Theo. p. 189 figs., PHILIP Bull. Ent. Res. 22.—*U. gigantea* sp. n. Sumatra p. 6 figs., BRUG Arch. Hydrobiol. Suppl. 9.—*U. hebes* sp. n. Assam p. 609, BARRAUD Ind. J. Med. Res. 19.—*U. ornata* larva, pupa p. 459 figs., CONNALL Bull. Ent. Res. 22.—*U. lowii* Theo. (= *monolis* Shann. & Del Pon.) p. 496, SHANNON 6. Reun. Soc. argent. Pat. reg. Norte.

Wyeomyia tripartita B.-W. & B. (= *lateralis* Pet.) p. 498, SHANNON t.c.—*W. luteoventralis* note on wing-venation p. 366 fig., DA COSTA LIMA An. Mus. H. n. B. Aires 36.

DIXIDAE.

Dixa larvae from Sunda Is. described pp. 199-204 figs., MARTINI Arch. Hydrobiol. Suppl. 9.—*D. peruviana* sp. n. Peru p. 261, EDWARDS Ann. Mag. N.H. (10) 7.

PSYCHODIDAE.

Morphology, physiology and ecology of Psychodid larvae, FEUERBORN Verh. int. Ver. Limnol. Kiel 1 (1922) 1923 pp. 181-213, 14 figs.

Morphology of terminal segments of Psychodid larvae and their taxonomic importance, MUKERJI Ind. J. Med. Res. 19 pp. 433-446, 3 pls. 2 figs.

Pericoma rivalis p. 186, *calcilega* p. 196, *deminuens* p. 198, spp. n. no localities figs., FEUERBORN Verh. int. Ver. Limnol. Kiel 1 (1922) 1923.

Phlebotomus further notes on Jugoslavian spp. pp. 104-110 figs., SIMIC Ann. Parasit. hum. comp. 9; preliminary note on spp. in Greece pp. 287-292 fig., CARDAMATIS Bull. Soc. Path. exotique 24.—*P.* list of African spp. p. 469, key p. 476, *squamipleuris* Newst. (= *ghesquierei* Parrot) (with var. n. *indicus* India) p. 470; *nairobiensis* p. 472, *decipiens* p. 473 spp. n. E. Africa; *schweizeri* Adl. & Theod. (= *symesi* Sint.) p. 471; *simillimus* Newst. (= *brodeni* Parrot) p. 474; *minutus* Rond. (= *signatipennis* Newst.) p. 475 figs., THEODOR Bull. Ent. Res. 22.—*P. minutus* feeding habits pp. 1047-1049, SHORTT Ind. J. Med. Res. 18.—*P. bigtii* p. 356, *dayapensis* p. 358, *torrechantei* p. 361, spp. n. Philippines figs., MANALANG Philipp. J. Sci. 45.—*P. larroussei* sp. n. France p. 73 figs., LANGERON & NITZULESCU Ann. Paras. hum. comp. 9.—*P. africanus* further description p. 233; *sanneri* sp. n. Gabun p. 238 figs., GALLIARD & NITZULESCU Ann. Parasit. hum. comp. 9.—*P. gaminarai*, *cortelezzii* hypopygium p. 690 figs., CORDERO An. Fac. Med. Montevideo 15 1930.—*P. papatasii*, *chinensis*, *sergenti*, *caucasicus* larval characters pp. 526-537 fig., SCHEVTSCHENKO Arch. Schiffs- u. Tropenhyg. 35.—*P.* bionomics and distribution of Mediterranean Basin spp. pp. 464-480, *vesuvianus* Adl. & Theo. (= *laroussei* Lang. & Nitz.); *neglectus* Tonn. a synonym of *major* Ann. not *perniciosus* Newst. p. 465; *major* ♂ ♀ p. 466, var.

n. syriacus Syria p. 467; *macedonicus* Macedonia, *canaaniticus* Palestine p. 468 spp. n., ADLER & THEODOR Proc. Roy. Soc. B. 108.—*P. of Catania* and Naples, Italy p. 105, *perniciosus* re-description p. 106; *parroti* var. n. *italicus* p. 107; *vesuvianus* sp. n. p. 108 Italy figs., ADLER & THEODOR Bull. Ent. Res. 22.—*P. revision* of Central Asiatic spp. pp. 50–55, *borowskii* p. 51, *stalinabadi* p. 53 spp. n. Centr. Asia figs., KHODUKIN in KHODUKIN & SOFIEV Meditz. Muisl' Uzbekist. Turkmenist. 5 (9–10), and in German in Arch. Schiffs- u. Tropenhyg. 35 pp. 482–488, 3 figs.—*P. argentipes* pairing pp. 443–444 fig., MUKERJI Parasitology 23; microscopic structure of pseudoleg pp. 443–445 figs., MUKERJI Ind. J. Med. Res. 19.—*P. eleanorae* p. 817, *bailyi* (with var. n. *campester*) p. 821, *purii* p. 1203 18, *arboris* p. 107 spp. n. India; *stantoni* further description p. 99 19 figs., SINTON Ind. J. Med. Res.—*P. key* to European spp. pp. 122–133, classification of subgen. and their spp. pp. 271–275, *parroti*, *minutus* morphology pp. 111–121; *fallax* probably a var. of *minutus* p. 256; *gomezi* sp. n. Venezuela p. 247; *chinensis* morphological notes and varr. p. 265, var. n. *simici* Jugoslavia, Palestine pp. 129, 265; *longiductus* a var. of *chinensis* p. 128; *perniciosus* var. *tobbi* in Jugoslavia pp. 266–270 figs., NITZULESCU Ann. Parasit. hum. comp. 9.

Psychoda eximia sp. n. no locality p. 200 fig., FEUERBOEN Verh. int. Ver. Limnol. Kiel 1 (1922) 1923.

Telmatoscopus similis, *ustulatus* morphology, biology pp. 131–151, 24 figs., FEUERBOEN Mitt. geogr. Ges. Lübeck (2) 31 1926.

PTYCHOPTERIDAE, TANYDERIDAE.

Tanyderus pictus re-description p. 110 fig., ALEXANDER Rev. chil. Hist. nat. 34 1930.

TRICHO CERIDAE (PETAURISTIDAE).

Trichocera maculipennis early stages, bionomics pp. 249–259 figs., KARANDIKAR Trans. Ent. Soc. Lond. 79.

TIPULIDAE.

List of crane-flies of Sunda Is. with descriptions of larvae and notes on larval habitats, ALEXANDER Arch. Hydrobiol. Suppl. 9 pp. 135–191, 1 pl. 51 figs.

List of the crane-flies of Quebec, II. ALEXANDER Canad. Ent. 63 135–147.

New or little known Tipulidae from the Philippines, VIII–XII, ALEXANDER Philipp. J. Sci. 45 pp. 263–296, 3 pls., 415–445, 3 pls.; 46 pp. 9–38, 3 pls., 269–304, 3 pls., 447–477, 2 pls.

Ecology of Australian Tipulid larvae and methods of breeding, ALEXANDER Vict. Nat. 47 pp. 195–203.

Adelphomyia luzonensis p. 286, *carbonicolor* p. 438 45, *apoana* p. 457, *paucisetosa* p. 458 46, spp. n. Philippines figs., ALEXANDER Philipp. J. Sci.

Amphineurus fergusonii p. 30, *spini-tergatus* p. 32, spp. n. Australia, ALEXANDER Ann. Mag. N.H. (10) 7.

Antocha minuticornis p. 351, *nebulipennis* p. 352, spp. n. China figs., ALEXANDER Philipp. J. Sci. 44.—*A. thienemanni* Java p. 172, *mesocera* Sumatra p. 173, spp. n. fig., ALEXANDER Arch. Hydrobiol. Suppl. 9.

Aphrophila carbonaria p. 115, *multidentata* p. 116, spp. n. Chile, ALEXANDER J. N.Y. Ent. Soc. 39.

Atarba bifurcula sp. n. Brazil p. 114, ALEXANDER t.c.—*A. unilateralis* sp. n. Venezuela p. 14 figs., ALEXANDER Amer. Mus. Nov. no. 491.

Bellardina subgen. n. see *Tipula*.

Bergrothomyia tregellasi sp. n. Victoria p. 146, ALEXANDER Ann. Mag. N.H. (10) 8.

Ceratocheilus davidsoni sp. n. Australia p. 35, ALEXANDER op. cit. (10) 7.

Clydonodozus curvinervis sp. n. Borneo p. 502, EDWARDS J. F.M.S. Mus. 16.

Cryptolabis convoluta sp. n. Australia p. 29, ALEXANDER Ann. Mag. N.H. (10) 7.

Ctenophora yezoana sp. n. Japan p. 124 fig., MATSUMURA Thous. Ins. Japan 2 1905.

Cylindrotoma nigripes sp. n. China p. 348 fig., ALEXANDER Philipp. J. Sci. 44.—*C. distinctissima* biology p. 17, TAYLOR North Western Nat. 6.

Dactylolabis hudsonica sp. n. Quebec p. 181, ALEXANDER Bull. Brooklyn Ent. Soc. 26.

Dicranoptycha caesia subsp. n. *pallidibasis* Japan p. 353, ALEXANDER Philipp. J. Sci. 44.

Dolichopeza subgeniculata China p. 340
44, *haightensis* p. 272, *spinisternata*
 p. 418, *paucispinosa* p. 419 **45**, *rizalensis*
 p. 271, *melanosterna* p. 272 Philippines
 spp. n., key to subgen. p. 269 **46**, figs.,
 ALEXANDER op. cit.—*D. sandakanensis*
 sp. n. Borneo p. 504, EDWARDS J.
 F.M.S. **16**.—*D. tridenticulata* sp. n.
 Massachusetts p. 177, ALEXANDER Bull.
 Brooklyn Ent. Soc. **26**.

Elephantomyia humilis p. 631, *angus-*
tissima p. 632, spp. n. Colombia,
 ALEXANDER Ann. Ent. Soc. Amer. **24**.

Epiphragma subcrenulata p. 287,
cinereinota p. 288, (*Polyphragma* sub-
 gen. n.) *fuscina* p. 435, *fulvinota* p. 436,
triarmata p. 437 **45**, *parviloba* p. 23,
fuscocfasciata p. 459, *latitergata* p. 460,
negrotibiata p. 462, *apoensis* p. 463,
hastata p. 464, *caninota* p. 466, *grisei-*
capilla p. 467, *angusticrenula* p. 468
 spp. n. Philippines; *bakeri* ♂ hypopy-
 gium p. 23 **46** figs., ALEXANDER Philipp.
 J. Sci.—*E. erasmii* sp. n. New South
 Wales p. 145, ALEXANDER Ann. Mag.
 N.H. (10) **8**.

Eriocera setifera sp. n. New South
 Wales p. 165, ALEXANDER t.c.—*E.*
tholopa sp. n. Brazil p. 630, ALEXANDER
 Ann. Ent. Soc. Amer. **24**.—*E. diengensis*
 p. 175, *lamonganensis* p. 176, spp. n.
 Java figs., ALEXANDER Arch. Hydrobiol.
 Suppl. **9**.—*E. gaspensis* sp. n. Quebec
 p. 143, ALEXANDER Canad. Ent. **63**.—
E. caesarea sp. n. China p. 358 fig.,
 ALEXANDER Philipp. J. Sci. **44**.—*E.*
ruficauda p. 502, *unimaculata* p. 503,
 spp. n. Borneo, EDWARDS J. F.M.S.
 Mus. **16**.

Erioptera derasa, geniculata spp. n.
 Borneo p. 498 fig., EDWARDS t.c.—*E.*
diplacantha sp. n. Australia p. 33,
 ALEXANDER Ann. Mag. N.H. (10) **7**.—
E. breviraia China p. 362, *machidai*
 Japan p. 363 **44**, *rubripes* p. 293,
perpictula p. 443 **45**, (*Teleneura* sub-
 gen. n. type *fusca* de Meij.) p. 286,
 scope of subgen. and key, *melanotaenia*
 p. 287, *lunensis* p. 288 **46**, Philippines
 spp. n. figs., ALEXANDER Philipp. J. Sci.

Gnophomyia acricula p. 637, *vilis*
 p. 638 spp. n. Colombia, ALEXANDER
 Ann. Ent. Soc. Amer. **24**.

Gonomyia lemniscata Colombia, Brazil
 p. 634, *methodica* Colombia p. 635,
 spp. n., ALEXANDER t.c.—*G. ptilostenella*
 p. 441, *acanthophallus* p. 442 **45**,
maquilingia p. 28, *pallidisignata* p. 30,

alboannulata p. 31, *luteimarginata* p. 32,
secreta p. 33, *terebrella* p. 285 **46**, spp. n.
 Philippines figs., ALEXANDER Philipp.
 J. Sci.—*G. (Ptilostenodes* subgen. n.,
 type *ptilostenella* Alex.), subsp. n.
javanica Java p. 182; *leucomelania*
 sp. n. Sumatra p. 183 figs., ALEXANDER
 Arch. Hydrobiol. Suppl. **9**.—*G. quin-*
queplagiata Brazil p. 119, *cubana* p. 120,
sandersi p. 121 Cuba, spp. n., ALEXAN-
 DER J. N.Y. Ent. Soc. **39**.—*G. mesoneura*
 sp. n. Australia p. 20, ALEXANDER Ann.
 Mag. N.H. (10) **7**.—*G. citrocotalis* sp. n.
 Borneo p. 499, EDWARDS J. F.M.S. Mus.
16.

Gymnastes multicinctus sp. n. Borneo
 p. 497, EDWARDS t.c.

Gynoplistia flindersi Tasmania p. 158,
signifera p. 159, *eucrypta* p. 160,
tenuifilosa p. 161, *forceps* p. 162, *pallidi-*
costa spp. n.; *claripennis* subsp. n.
bifasciata p. 164 Australia, ALEXANDER
 Ann. Mag. N.H. (10) **8**.—*G. variata*
 p. 628, *biarmata* p. 629, spp. n. Chile,
 ALEXANDER Ann. Ent. Soc. Amer. **24**.

Helius kambanganoides sp. n. Java p.
 174 fig., ALEXANDER Arch. Hydrobiol.
 Suppl. **9**.—*H. diacanthus* p. 285, *tri-*
anguliferus p. 434 **45**, *fuscocfemoratus* p.
 282, *indivisus* p. 283, *procerus* p. 454,
apoensis p. 455 spp. n. Philippines;
reticularis new to Philippines p. 23 **46**
 figs., ALEXANDER Philipp. J. Sci.

Heterangaeus laticincta sp. n. Japan
 p. 355 fig., ALEXANDER op. cit. **44**.

Indotipula subgen. n. see *Tipula*.

Ischnothrix grampiana p. 155, *ma-*
thewsi p. 157, spp. n. Australia, ALEX-
 ANDER Ann. Mag. N.H. (10) **8**.

Limnophila roraima, roraimicola spp.
 n. Venezuela p. 13 figs., ALEXANDER
 Amer. Mus. Nov. no. **491**.—*L.*
recedens p. 147, *longicellula* p.
 149, *angusticellula* p. 150, *brunnei-*
stigma p. 151, *brachyptera* p. 153,
acuspinosa p. 154 spp. n.; *kershawii*
 subspp. n. *dandenongensis*, *cumberland-*
ensis p. 152 Australia, ALEXANDER Ann.
 Mag. N.H. (10) **8**.—*L. mundella* Japan
 p. 357, *nesonemorialis* Formosa p. 358
44, *benguetana* p. 289, *pardalota* p. 291,
retracta p. 439, *radialis* p. 440 **45**,
igorota p. 24 **46** Philippines, spp. n. figs.,
 ALEXANDER Philipp. J. Sci.

Limonia labuana p. 291, *infantula*,
albilabris p. 493, *rufata* p. 495, spp. n.
 Borneo, EDWARDS J. F.M.S. Mus. **16**.

—*L. tripectinata* p. 625, *mystica* p. 627, spp. n. Colombia, ALEXANDER Ann. Ent. Soc. Amer. 24.—*L. subapicata* sp. n. Florida p. 178, ALEXANDER Bull. Brooklyn Ent. Soc. 26.—*L. feuerborni* Sumatra p. 163, *diengana* spp. n.; *tahanensis* subsp. n. *diengensis* p. 167, *aphrophila* p. 166 Java figs., ALEXANDER Arch. Hydrobiol. Suppl. 9.—*L. clavigera* Chile p. 109, *trinitatis* Trinidad p. 110, spp. n., ALEXANDER J. N.Y. Ent. Soc. 39.—*L. subpulchripennis* p. 350, *dignitosa* p. 351 44, *ligayai* p. 275, *neofamiliaris* p. 276, *subfamiliaris* p. 277, *perparvula* p. 278, *elata* p. 279, *benguetensis* p. 280, *bifidaria* p. 281, *pleuropalloris* p. 282, *pampangensis* p. 283 (with subsp. n. *maquilungia*), *octosetosa* p. 284, *claggi* p. 420, *synchaeta* p. 422, *pleiades* p. 423, *pronalis* p. 424, *cynotis*, *prolixicornis* p. 426, *pilosicaudata* p. 428, *davaoensis* p. 429, *calianensis* p. 431, *bellula* p. 432 45, *candidella* p. 11, *latiflava* p. 12, *flavohumeralis* p. 13, *canis* p. 14, *luteipleurialis* p. 16, *phoenosoma* p. 17, *longifimbriata* p. 18, *paramanca* p. 19, *angustapicalis* p. 20, *solicita* p. 21, *bilobulifera* p. 273, *melanopleura* p. 274, *tremula* p. 275, *unistriolata* p. 276, *melancholica* p. 278, *perrara* p. 279, *orthia* p. 281, *neopunctulata* p. 282, *manobo* p. 447, *bilan* p. 449, *atroaurata* p. 450, *bagobo* p. 452, *subpacata*, *subprolixa* p. 453 46, Philippines spp. n. figs., ALEXANDER Philipp. J. Sci.—*L. roraimae* p. 5, *dolorosa* p. 8, *tatei* p. 9, *arecuna* Brazil, *rubiginosa* p. 11 spp. n.; *conica* subsp. n. *turrisfera* Venezuela p. 8 figs., ALEXANDER Amer. Mus. Nov. no. 491.

Lunatipula subgen. n. see *Tipula*.

Macgregoromyia further characters p. 272, *brevisector* sp. n. Luzon p. 273 fig., ALEXANDER Philipp. J. Sci. 45.

Macromastix bullocki sp. n. Chile p. 622, ALEXANDER Ann. Ent. Soc. Amer. 24.

Molophilus flexilistylus p. 639, *subtenebricosus*, *walkeri* p. 640, *marthae* p. 641 Colombia, *bidigitatus* Brazil p. 642, spp. n., ALEXANDER t.c.—*M. militaris* p. 153, *bunyipensis* p. 155, *distinctissimus* p. 156, *obliteratus* p. 157, *elatus* p. 158, *subhorridus* p. 159, *baubawiensis* p. 160, *sublyratus* p. 161, *permutatus* p. 162, *vividus* p. 163, *trigonalis* p. 164, *subalpica* p. 165, *congregatus* p. 166, *tensus* p. 167, *subasper* p. 168, *subhastatus* (also Tasmania) p. 170, *capitellum* p. 171

spp. n.; *chloris* subsp. n. *inquirendus* p. 167 Australia, ALEXANDER Ann. Mag. N.H. (10) 7.—*M. pollex* sp. n. Quebec p. 146, ALEXANDER Canad. Ent. 63.—*M. ferox* Japan p. 365 44, *banahaoensis* p. 289, *tawagensis* p. 293 Luzon, *procericornis* p. 290, *mendicus* p. 292 46 Mindanao, spp. n. figs., ALEXANDER Philipp. J. Sci.

Neognophomyia colombicola sp. n. Colombia p. 636, ALEXANDER Ann. Ent. Soc. Amer. 24.

Neolimnophila picturata sp. n. China p. 359 fig., ALEXANDER Philipp. J. Sci. 44.

Nesopeza caloptera sp. n. Borneo p. 503, EDWARDS J. F.M.S. Mus. 16.

Orimarga rubricolor sp. n. Luzon p. 22 fig., ALEXANDER Philipp. J. Sci. 46.

Ormosia grahami sp. n. China p. 364 fig., ALEXANDER op. cit. 44.

Oropeza walleyi sp. n. Quebec p. 139, ALEXANDER Canad. Ent. 63.

Ozodiceria duidensis sp. n. Venezuela p. 2 figs., ALEXANDER Amer. Mus. Nov. no. 491.

Paragymnastes riedeli sp. n. Australia p. 34, ALEXANDER Ann. Mag. N.H. (10) 7.

Phalacroceras megacauda sp. n. Japan p. 349, ALEXANDER Philipp. J. Sci. 44.—*P. vancouverensis* notes, mature larva fig. p. 16, SPENCER Proc. Ent. Soc. Br. Columbia no. 27 1930.

Phyllolabis bryantiana p. 182, *lagganensis* p. 183, spp. n. Canada, ALEXANDER Bull. Brooklyn Ent. Soc. 26.

Pilaria phoenosoma p. 25, *carbonipes* p. 27 (with subsp. n. *holomelania*), *albo-posticata* p. 28, spp. n. Philippines figs., ALEXANDER Philipp. J. Sci. 46.

Polymera catharinae sp. n. Brazil p. 111, ALEXANDER J. N.Y. Ent. Soc. 39.

Polyphragma subgen. n. see *Epiphragma*.

Psiloconopa cramptonella sp. n. Quebec p. 144, ALEXANDER Canad. Ent. 63.

Ptilostenodes subgen. n. see *Gonomyia*.

Rhabdomastix feuerborni sp. n. Java p. 185 fig., ALEXANDER Arch. Hydrobiol. Suppl. 9.

Scamboneura key to Philippine spp. p. 266, *plumbea*, *unicolor* ♂ hypopygium p. 271; *subtransversa* p. 267, *primogenia* p. 269, *banahaoensis* p. 270, *mindanaoensis* p. 415, *davaoensis* p. 417 45, *nigrotergata* p. 9, *calianensis* p. 10 46, spp. n. Philippines figs., ALEXANDER Philipp. J. Sci.

Schummelia subgen. n. see *Tipula*.

Shannonomyia myersiana Jamaica p. 112, *brevicula* Cuba p. 113, spp. n., ALEXANDER J. N.Y. Ent. Soc. 39.

Styringomyia key to Philippine spp. p. 294, *luteipennis* p. 295, *montina* p. 296 Luzon, *claggi* p. 297, *nigrosternata* p. 299, *neocolona* p. 301 Mindanao, spp. n. figs., ALEXANDER Philipp. J. Sci. 46.—*S. curvispina* sp. n. Borneo p. 496, EDWARDS J. F.M.S. Mus. 16.

Tasiocera hiemalis, *terrae-reginae* p. 23, *acanthophallus* p. 24, *cyatheti* p. 25, *bucephala* p. 26, *dicksoniae* p. 28, *taylori* p. 29, spp. n. Australia figs., ALEXANDER Ann. Mag. N.H. (10) 7.

Teleneura subgen. n. see *Erioptera*.

Teucholabis catharinensis Brazil p. 117, *nigrosignata* Cuba p. 118, spp. n., ALEXANDER J. N.Y. Ent. Soc. 39.—*T. duidensis* sp. n. Venezuela p. 15 fig., ALEXANDER Amer. Mus. Nov. no. 491.—*T. marticola* sp. n. Colombia p. 633, ALEXANDER Ann. Ent. Soc. Amer. 24.—*T. reginae* sp. n. Australia p. 21, ALEXANDER Ann. Mag. N.H. (10) 7.—*T. scitamenta* China p. 360 44, *majuscula* p. 35, *confluentoides* p. 36 Mindanao 46, spp. n. figs., ALEXANDER Philipp. J. Sci.

Thaumastoptera maculivena sp. n. Philippines p. 456 figs., ALEXANDER op. cit. 46.

Tipula some suggestions on classification pp. 73-74, published synonyms and subgen. pp. 75-80, *Schummelia* p. 80, *Indotipula*, *Lunatipula* p. 81, *Bellardina* p. 82 subgen. n., EDWARDS Ann. Mag. N.H. (10) 8.—*T. longicauda* sp. n. Japan p. 123 fig., MATSUMURA Thous. Ins. Japan 2 1905.—*T. laterosetosa* sp. n. Colombia p. 623, ALEXANDER Ann. Ent. Soc. Amer. 24.—*T. arecuna* Brazil p. 3, *duidae* Venezuela p. 4, spp. n. figs., ALEXANDER Amer. Mus. Nov. no. 491.—*T. oleracea* morphology, biology pp. 28-45 figs., SILANTJEV Plant Prot. 7.—*T. exusta* p. 341, *angustiligula* p. 346, *latiflava* p. 347 China, *nippoalpina*

p. 342, *depressa* p. 343, *politostriata* p. 344 Japan, spp. n. figs., ALEXANDER Philipp. J. Sci. 44.

Tipulodina pampangensis sp. n. Luzon p. 265, ALEXANDER op. cit. 45.

Toxorhina brunniventris p. 495, *ochreatea* p. 496, spp. n. Borneo, EDWARDS J. F.M.S. Mus. 16.—*T. montina*, *biceps* Luzon p. 292, *dendroidea* Mindanao p. 444, spp. n. figs., ALEXANDER Philipp. J. Sci. 45.

Trentepohlia distalis p. 284, *chionopoda* p. 469, *aequalba* p. 470, *aequinigra* p. 472, *majuscula* p. 473, *laetipennis* p. 474, *apocicola* p. 475, spp. n. Mindanao figs., ALEXANDER op. cit. 46.—*T. tenera* subsp. n. *javanensis* Java p. 181, ALEXANDER Arch. Hydrobiol. Suppl. 9.—*T. brevipes* Papua p. 18, *taylori* Australia p. 19, spp. n., ALEXANDER Ann. Mag. N.H. (10) 7.—*T. cubitalis* sp. n. Brazil p. 116, ALEXANDER J. N.Y. Ent. Soc. 39.—*T. quadrimaculata* p. 499, *lutescens*, *setifera* p. 500, *labuana* p. 501 spp. n. Borneo, EDWARDS J. F.M.S. Mus. 16.

Tricyphona pectinata p. 354, *setipennis* p. 355, spp. n. Japan figs., ALEXANDER Philipp. J. Sci. 44.—*T. rubiginosa* sp. n. Br. Columbia p. 179, ALEXANDER Bull. Brooklyn Ent. Soc. 26.

STRATIOMYIIDAE.

Stratiomyiidae from Ussuri, PLESKE Annu. Mus. zool. Acad. Leningrad 31 1930 pp. 182-199.

Key to genn. of Palaearctic Sarginae, PLESKE Annu. Mus. zool. Acad. Leningrad 31 1930 p. 188.

Acrodesmia fimbriata sp. n. Brazil p. 307; *albitarsis* F. (= *ludewaldi* End.) p. 308 fig., LINDNER Rev. Ent. S. Paulo 1.

Actina key to Palaearctic spp. p. 196, *soldatovi* Plsk. distinct sp.; *nais* p. 197, *flavofemorata* p. 200, spp. n. Ussuri, PLESKE Annu. Mus. zool. Acad. Leningrad 31 1930.

Beris revised key to Palaearctic spp. p. 191, *fuscipes* Mg. (= *sachalinensis* Plsk.); *mongolica* ♂ p. 194; *hildebrandtae* sp. n. Ussuri p. 195, PLESKE t.c.

Chiromyza australis short descriptions of egg, larva, adult p. 213, RAFF Vict. Nat. 47.

Chloromyia revised key to Palaearctic spp., *ussuriana* sp. n. Ussuri; *nigripes* Plsk. raised to sp. rank p. 187, PLESKE Annu. Mus. zool. Acad. Leningrad 31 1930.

Cormacantha grisea sp. n. Zambesi p. 650, SÉGUY Bull. Mus. Paris (2) 2 (1930).

Damaromyia status, characters p. 120, key p. 122, *depressa*, *discolor* p. 123, *bifossa*, *hirsuta* p. 124, *confusa* p. 125, *racemipuncta*, *clivosa* p. 128 Queensland, *trina*, *limbipuncta* Tasmania p. 127 spp. n., HARDY Ann. Mag. N.H. (10) 8.

Hedriodiscus pulcher Wied. (= *Odonatomyia tremolera* Aldr.) p. 311, LINDNER Rev. Ent. S. Paulo 1.

Hermione ucrainica sp. n. Ukraine p. 87, PARAMONOV Bull. Acad. Sci. Ukraine 2 1926.

Merosargus opaliger sp. n. Brazil p. 306 fig., LINDNER Rev. Ent. S. Paulo 1.

Microchrysa laodunensis ♂ p. 191, PLESKE Annu. Mus. zool. Acad. Leningrad 31 1930.

Nemotelus maculatus ♂ p. 312, LINDNER Rev. Ent. S. Paulo 1.

Neurota gen. n. for *Sargus bicolor* Wied. p. 2, CURRAN Amer. Mus. Nov. no. 456.

Odontomyia tremolera see *Hedriodiscus pulcher*.

Oxycera key to larvae p. 173 figs., LENZ Mitt. geogr. Ges. Lübeck (2) 31 1926.

Ptecticus nigropygialis sp. n. Bolivia p. 305, LINDNER Rev. Ent. S. Paulo 1.

Raphiocera armata varr. n. *hansae*, *minasensis*, *stieglmayri*, *borgmeieri*, *trans-hansae*; *sancti-pauli* sp. n. Brazil p. 310, LINDNER t.c.

Sargus bicolor see *Neurota*.

Stackelbergia gen. n. p. 189, *chloromyioides* sp. n. Ussuri p. 190, PLESKE Annu. Mus. zool. Acad. Leningrad 31 1930.

Wallacea nigrotibialis sp. n. Ussuri p. 184, PLESKE t.c.

XYLOPHAGIDAE (ERINNIDAE).

Erinnidae from Ussuri, PLESKE Annu. Mus. zool. Acad. Leningrad 31 1930 pp. 199-200.

Heterostomus transferred to Tabanidae, q.v.

Subula gloriosa sp. n. p. 78 fig., MATSUMURA Thous. Ins. Japan 2 1905.

TABANIDAE.

Tabanidae of Yucatan, Mexico, BEQUAERT J. N.Y. Ent. Soc. 39 pp. 533-553, 3 figs.

Tabanids from Algeria, ENDERLEIN SitzBer. Ges. naturf. Fr. Berlin 1930 pp. 376-385, 2 figs.

Morphological and biological notes on Indian Tabanidae, with key to genera p. 197, FLETCHER & SEN Ind. J. Vet. Sci. Anim. Husband. 1 pt. 3 pp. 192-199, 1 pl.

Notes on British Tabanidae (synonymic list with named forms of the Palaearctic Region p. 108), GOFFE Trans. Ent. Soc. S. England 1930 pp. 43-114, 2 pls.

Pelecorhynchinae and Melpiinae of S. America, KRÖBER Mitt. zool. Mus. Hamburg 44 pp. 149-196, 33 figs.

The small genera of Dichelacerinae from S. America, KRÖBER Rev. Ent. S. Paulo 1 pp. 282-295, 11 figs.

Tabanids of New Zealand, KRÖBER Stett. ent. Z. 92 pp. 58-89, 12 figs.

Tabanidae of China, SCHUURMANS STEKHOVEN Lingnan Sci. J. 7 pp. 502-509.

Notes on the early stages of Arkansas Tabanidae, SCHWARTZ J. Kansas Ent. Soc. 4 pp. 1-15.

Aphopeas gen. n. p. 102, *priscum* sp. n. New Zealand p. 103, ENDERLEIN SitzBer. Ges. naturf. Fr. Berlin 1930.—*A. truncatus* Wlk. (= *priscum* End., *Mesomyia maoriorum* Big.) p. 72 type of genus; *nigripes* sp. n. New Zealand p. 74 fig., KRÖBER Stett. ent. Z. 92.

Astigmatophthalmus gen. n., *satanas* sp. n. Costa Rica p. 297 fig., KRÖBER Rev. Ent. S. Paulo 1.

Baikalia see *Surcoufiella*.

Bellardia rubrofemorata sp. n. Brazil p. 400 fig., KRÖBER Rev. Ent. S. Paulo 1.

Bombomimetes rufoaurea see *Oscara rufa*.

Braunsiomyia n. n. for *Brodedia* Surc. nec Ged. p. 26, BEQUAERT Psyche 31 1924.

Brodenia see *Braunsimyia*.

Calliosca varia Wlk. (= *schoenemanni* End.) p. 168 figs., KRÖBER Mitt. zool. Mus. Hamburg 44.

Chlorotabanus mexicanus ♂ p. 91, KRÖBER Stett. ent. Z. 92.

Chrysops (*Heterochrysops* subgen. n.) p. 50, KRÖBER Zool. Jahrb., Abt. Syst. 43 1920.—*C. caecutiens* ff. n. *niger*, *nigrescens*, *obsolescens* p. 51, *obsoletus*, *fulvus*, *clarus* p. 52, *hyalinatus*; *quadratus* ff. n. *intermedius* p. 55, *lineatus*, *obsoletus* p. 56; *relictus* ff. n. *inconspicuus*, *chlorosis*, *conspicuus*, *clarus* p. 58, GOFFE Trans. Ent. Soc. S. England 1930.—*C. silacea* digestion pp. 73–76, WIGGLESWORTH Parasitology 23.

Dasystypia schmidtiana p. 379, *alticornis* p. 380, spp. n. Algeria; *tunesica* ♂ p. 381, ENDERLEIN Sitzber. Ges. naturf. Fr. Berlin 1930.

Diatomineura longipennis see *Listriosca*.

Dichelacera difficilis sp. n. Amazonas, Demerara p. 93, KRÖBER Stett. ent. Z. 92.—*D. costaricensis* Costa Rica, *fraterna*, *pseudojanuarii* p. 412, *decipiens* p. 413 Brazil, *tricallosa* Peru, *capricornis* Centr. America p. 414, *soror* Santa Cruz p. 415, *limbatinervis* Paraguay p. 416, spp. n. figs., KRÖBER Rev. Ent. S. Paulo 1.

Di cladocera badia Panama, *griseipennis* p. 402, *nova* p. 406 Bolivia, *acheronitens* p. 403, *bicolor* p. 405 Brazil, *fulvicornis* Peru p. 404, *curta*, *sulphurea* Venezuela p. 408, spp. n.; *neosubmacula* n. n. for *submacula* Wlk. (= *macula* Macq.) p. 409 figs., KRÖBER t.c.

Dyspangonia gen. n. for *Pangonius fuscipennis* Wied. p. 27, LUTZ Rev. Soc. sci. S. Paulo 1 1905 [not seen].—See *Esenbeckia*.

Epipsila nigricornis sp. n. Brazil p. 19 figs., KRÖBER Zool. Anz. 95.

Eristalotabanus gen. n., *violaceus* sp. n. Ecuador p. 290 figs., KRÖBER Rev. Ent. S. Paulo 1.

Esenbeckia Rond. (= *Dyspangonia* Lutz type *fuscipennis* Wied.) p. 28, BEQUAERT Psyche 31 1924.—*E.* key p. 246, *triste* p. 251, *insignis* p. 255 Brazil, *enderleini* p. 252, *argentina* p. 253 Tucuman, *nigriventris* Peru p. 254, *gracilis* Amazonas p. 255, *tinctipennis*

Colombia p. 256, spp. n.; *vulpes* var. n. *affinis* Bolivia p. 251; *ferruginea* var. n. *nigrovillosa* Paraguay p. 253 figs., KRÖBER Zool. Anz. 94.

Eutabanus gen. n. p. 264 figs., KRÖBER Zool. Anz. 86 1930.

Fidena rubrithorax p. 19, *decipiens* p. 20, *pseudofulvithorax* p. 21, *ornata* p. 22, *maculipennis* p. 25, *latifrons* p. 28, *brasiliensis*, *niveibarba* p. 29, *neowinthemi* p. 30, *brachycephala* p. 31, *loricornis* p. 32, *rufibasis* p. 34, *obscuripes* p. 35 Brazil, *neglecta* p. 21, *pallida* p. 30 Argentina, *flavipennis* Venezuela, *aureopygia* p. 24, *fulvosericca* p. 26 Colombia, *aureosericea* Bolivia p. 27, *zonalis* Peru p. 33, *bicolor* Costa Rica p. 36, spp. n. figs., KRÖBER Zool. Anz. 95.

Gymnochela see *Tabanus*.

Haematopota fuscifrons n. n. for *cordigera* Big. 1892 nec 1891 p. 411 (note), AUSTEN Ann. Mag. N.H. (8) 1 1908.

Heterochrysops subgen. n. see *Chrysops*.

Heterostomus from Xylophagidae p. 194, KRÖBER Mitt. zool. Mus. Hamburg 44.

Hybostraba pulchella sp. n. Argentina p. 73 fig., KRÖBER Zool. Anz. 94.—*H. albopillosa* sp. n. Costa Rica p. 92, KRÖBER Stett. ent. Z. 92.

Leptotabanus gen. n. for *Tabanus transversus* Wlk. p. 76 figs., KRÖBER t.c.

Leucotabanus nigriventris sp. n. Mexico p. 92, KRÖBER t.c.

Listrapha imitans see *Listriosca*; *convergens* see *Melpia*.

Listriosca key, *longipennis* Ric. from *Diatomineura* p. 159; *imitans* End. from *Listrapha*; *farinosa* sp. n. Chile p. 162, KRÖBER Mitt. zool. Mus. Hamburg 44.

Melpia scope, key p. 172, *pallida* Chile p. 174, *ochracea* Venezuela p. 175, *columbiensis* Colombia p. 177, *gracilis* Brazil, *nigricans* Columbia, Brazil p. 181, spp. n.; *convergens* End. from *Listrapha* p. 177 figs., KRÖBER t.c.—*M. ruficornis* sp. n. Brazil p. 90, KRÖBER Stett. ent. Z. 92.—*M. ferruginea*, *fenestrata* see *Parosca*; *exeuns* see *P. molesta*; *seminigra* see *P. tabanipennis*.

Mesomyia maiorum see *Aphopeas truncatus*.

Orgyomyia nigra sp. n. Zambezi p. 652, SÉGUY Bull. Mus. Paris (2) 2 (1930).

Oscia key p. 163, *rufa* Macq. (= *Bombomimetus rufoaurea* Phil.) p. 164; *rubriventris* Peru, Bolivia sp. n. p. 165 figs., KRÖBER Mitt. zool. Mus. Hamburg 44.

Pangonius acuminatus, *seitzianus* spp. n. Algeria p. 383; *vittipennis* further description p. 384, ENDERLEIN SitzBer. Ges. naturf. Fr. Berlin 1930.—*P. fuscipennis* see *Esenbeckia* (*Dyspanonia*).

Parosca, scope p. 183, key p. 184, *grisea* Jaenn. (= *jucunda* Jaenn.) p. 186; *ferruginea* End. p. 188, *fenestrata* Macq. from *Melpia*; *molesta* Wied. (= *M. exeuus* Wlk.); *tabanipennis* Macq. (= *M. seminigra* Ric.) p. 172; *olivaceiventris* sp. n. Brazil, Chile p. 192 figs., KRÖBER Mitt. zool. Mus. Hamburg 44.

Phaeoneura basilaris var. n. *acutipalpis* Brazil p. 18 figs., KRÖBER Zool. Anz. 95.

Phaetabanus columbianus sp. n. Colombia p. 90, KRÖBER Stett. ent. Z. 92.

Phyrta speciosa sp. n. Brazil p. 400 fig., KRÖBER Rev. Ent. S. Paulo 1.

Poecilosoma revision of Neotropical group pp. 69–71, 74–89; *claripennis* p. 74, *obscuriventris* p. 80, *lindneri* p. 84 Bolivia, *picturata* Mexico p. 75, *fraterna* Brazil p. 82, *platyventris* Costa Rica p. 88 spp. n.; *schineri* n. n. for *histrion* Schin. nec Wied. p. 87 figs., KRÖBER Zool. Anz. 94.

Psalidia ocellata ♂ p. 91, KRÖBER Stett. ent. Z. 92.

Rhamphidommia nigra sp. n. Brazil p. 290 figs., KRÖBER Rev. Ent. S. Paulo 1.

Scaptia key p. 60, *brevipalpis* (with var. n. *palpalis* p. 69) sp. n. New Zealand p. 67 figs., KRÖBER Stett. ent. Z. 92.

Straba revision of Neotropical group pp. 67–74, *grandis* sp. n. Bolivia p. 68 figs., KRÖBER Zool. Anz. 94.

Surcoufiella n. n. for *Baikalia* Surc. nec *Baikalia* Mart. p. 26, BEQUAERT Psyche 31 1924.

Sziladynus laticornis sp. n. Algeria p. 377 fig., ENDERLEIN SitzBer. Ges. naturf. Fr. Berlin 1930.

Tabanus colour and marking of eye pp. 289–336 figs., FRIZA Z. vergl. Physiol. 8 1928.—*T.* subgen. *Gymnochela* revision pp. 49–61 figs., KRÖBER Zool. Anz. 96.—*T. sudeticus* var. n. *perplexus* Britain p. 399 figs., VERRALL Dipt. Brachycera Gr. Britain 1909.—*T. cordieri* sp. n. Abyssinia p. 210, SURCOUF Etude monog. Tabanides d'Afrique 1909.—*T. trigonus* p. 200, *okadae* p. 285, spp. n. Formosa, SHIRAKI Agric. Expt. Sta. Govt. Formosa 8 1913 [not seen].—*T. amaenus* Wlk. (= *okadae* Shir.) p. 312; *exoticus* Ric. (= *trigonus* Shir.) p. 371, SHIRAKI Blood-sucking Ins. Formosa I 1918.—*T. oculatus* n. n. for *pusillus* Macq. 1855 nec 1833 p. 276, RICARDO Ann. Mag. N.H. (8) 16 1915.—*T. brockmani* sp. n. [wrongly attributed to Austen] E. Africa p. 867 fig., SURCOUF Voy. M. M. de Rothschild Ethiop. & Afr. or. angl., Dipt. piqueurs, Paris 1922.—*T. nigrinus* n. n. for *nigerrimus* Sch.-Stek.; *bipustulatus* n. n. for *bipunctatus* S.S.; *fenestralis* n. n. for *fenestratus* S.S.; *frondosus* n. n. for *latifrons* S.S.; *schurmansi* n. n. for *ruficornis* S.S. p. 10, SZILÁDY Biol. Hung. 1 fasc. 7 1926.—*T. trinominata* (= *palpalis* Ric. nec Brèth.) n. n. for *angustus* Big. nec Macq. p. 54, SENIOR-WHITE Catal. Indian Insects pt. 12 1927.—*T. lineola* biology pp. 409–416, SCHWARDT Ann. Ent. Soc. Amer. 24.—*T. ceylonicus*, *minimus*, *fumifer* pupae pp. 120–125 figs., NIESCHULZ Zbl. Bakt. (2) 83.—*T. frontalis*, *affinis* p. 275, *pruinosis* p. 276, *maculifrons* p. 277, *cingulatus* p. 278, *rubromarginatus* p. 283, *nigrofemoratus* p. 288, *pilosus* p. 291, *modestus* p. 293 Chile, *canus* p. 278, *canescens* p. 285, *ruficornis* p. 287, *albescens* p. 289 Argentina, *frontosus* p. 279, *ruficaudis* p. 291 Montevideo, *limbativena*, *griseus* p. 280, *caesiomaculatus*, *pictipennis* p. 281, *communis* p. 282, *ornatus* p. 285, *schnusei* p. 290, *albobibialis* p. 292, *decoloratus* p. 301 Peru, *patellicornis* p. 284, *pallipes* p. 292, *nigrofemoratus* p. 294 Bolivia, *rufus* Ecuador p. 287, *formosus* Amazonas p. 288, *brevifrons* p. 294, *neovestitus* p. 296, *tenuistria* p. 297, *stigmatalis* p. 299 Brazil, *colimaensis* Mexico p. 295, *femoralis* Guatemala p. 297, *brevitrianguliferus* p. 298, *venezuelensis* p. 303, *serenus* p. 304 Venezuela, *dominicanus* Dominica p. 301, *globulicallosus* Panama p. 302, *lacaiaensis* Costa Rica p. 303, *pseudocingulatus* S. America

locality unknown p. 288, spp. n., KRÖBER Stett. ent. Z. 92.—*T. basilaris* p. 291, *neo-innotescens*, *nigropalpis* p. 299; Brazil, *nigriflavus* Amazonas, *schmidtii* p. 292, *costaricensis* p. 294, *griseopleuris* p. 295 Costa Rica, *curticornis* Montevideo p. 293, *winthemi* S. America p. 295, *viridescens* Surinam p. 296, *neglectus* Peru, *haitiensis* Haiti p. 297, *nubeculipennis* Venezuela p. 298, spp. n., KRÖBER Konowia 10.—*T. yucatanus* ♂ p. 545; *maya* p. 546, *itzarum* p. 548 spp. n. Yucatan figs., BEQUAERT J. N.Y. Ent. Soc. 39.—*T. sudeticus* ff. n. *meridionalis* p. 74, *confusus* p. 76, *distinctus* p. 77; *distinguendus* ff. n. *rufus* p. 98, *parvus* p. 99, GOFFE Trans. Ent. Soc. S. England 1930.—*T. nervosus* sp. n. Porto Rico p. 4 figs., CURRAN Amer. Mus. Nov. no. 456.—*T. transversus* see *Leptotabanus*.

Thereviotabanus gen. n. p. 77, *viridis* sp. n. New Zealand p. 78 fig., KRÖBER Stett. ent. Z. 92.

Therioplectes key p. 80, *difficilis* p. 86, *pseudobranchii* p. 88, spp. n. New Zealand figs., KRÖBER t.c.—*T. algericus* sp. n. Algeria p. 378, ENDERLEIN SitzBer. Ges. naturf. Fr. Berlin 1930.

PANTOPHTHALMIDAE (ACANTHOMERIDAE).

Classification of Pantophthalmidae, ENDERLEIN SitzBer. Ges. naturf. Fr. Berlin 1930 pp. 361–376, 4 figs.

Acanthomera engeli p. 362, *faceta* p. 363, *subsignata* p. 364 spp. n.; *punctigera* End. (= *Pantophthalmus variegatus* Aust.) p. 365; *splendida* ♂ p. 366, ENDERLEIN SitzBer. Ges. naturf. Fr. Berl. 1930.

Atopomyia rothschildi var. n. *ocellata* Bolivia; *roseni* sp. n. Panama p. 370 figs., ENDERLEIN t.c.

Lycops gen. n., *zoos* sp. n. Mexico p. 367 fig., ENDERLEIN t.c.

Opetiops sigma sp. n. Brazil p. 372, ENDERLEIN t.c.

Pantophthalmus latifrons sp. n. Peru p. 374, ENDERLEIN t.c.—*P. tabaninus* immature stages pp. 277–280, biology pp. 280–282 (URICH) figs., GREENE Trans. Ent. Soc. Lond. 79.—*P. variegatus* see *Acanthomera punctigera*.

COENOMYIIDAE.

Coenomyiidae from Ussuri, PLESKE Annu. Mus. zool. Acad. Leningrad 31 1930 pp. 200–201.

LEPTIDAE (RHAGIONIDAE).

Some notes on the author's revision of Rhagionidae, LEONARD Trans. Amer. Ent. Soc. 57 pp. 321–323.

Some data on Australian Rhagionidae, MALLOCH Proc. Linn. Soc. N.S.W. 56 pp. 273–276.

Rhagionidae of District of Columbia, MALLOCH, GREENE & MCATEE Proc. Ent. Soc. Wash. 33 pp. 213–220.

Anaxylophagus subgen. n. see *Xylophagus*.

Atherimorpha, *Philippoleptis* subgen. n. type *Leptis praefica* Phil. p. 276, MALLOCH Proc. Linn. Soc. N.S.W. 56.

Chrysopilus turkestanus Turkestan p. 85, *limpidipennis* Asia p. 87, spp. n., LINDNER Konowia 10.—*C.* key p. 1, *panamensis* p. 2, *unicus* p. 3, *donato* p. 6, *latistigma*, *fasciventris* p. 7, *rhagiodes* (BROMLEY) p. 8 Panama Canal Zone, *bequaerti* p. 3, *cubensis* p. 5 Cuba, *leonardi* p. 4, *macularis* p. 6 Porto Rico, *guianicus* p. 5, *argenteofasciatus* (BROMLEY), *sericeus* (BROMLEY) p. 9 Br. Guiana, *fascipennis* (BROMLEY) Brazil p. 8, spp. n., CURRAN Amer. Mus. Nov. no. 462.

Dasyomma Macq. (= *Trichopalpus* Philp., *Trichopalpomya* Hunter) p. 275, MALLOCH Proc. Linn. Soc. N.S.W. 56.

Lampromyia spp. biology pp. 241–266, 5 figs., WHEELER Demons of the Dust 1931.

Leptis praefica see *Atherimorpha*.

Philippoleptis subgen. n. see *Atherimorpha*.

Ptiolina key, *augusta*, *mitis* p. 249, *alberta* (LEONARD) Canada, *obsoleta* (LEONARD) p. 250, *grisea* p. 251 U.S.A., spp. n., CURRAN Canad. Ent. 63.

Rhagio turcicis sp. n. Brousa p. 87, LINDNER Konowia 10.—*R. schmidtii* sp. n. Algeria p. 205, LINDNER SitzBer. Ges. naturf. Fr. Berlin 1931.

Symphoromyia algens p. 1, *currani* p. 2, spp. n. U.S.A., LEONARD Amer. Mus. Nov. no. 497.

Trichopalpomyia see *Dasyomma*.

Trichopalpus see *Dasyomma*.

Vermilio spp. biology pp. 142-166;
tibialis var. n. *dowi* Cuba p. 276 (also in
Psyche 38 p. 167) figs., WHEELER
Demons of the Dust 1931.

Vermitigris gen. n., *fairchildi* sp. n.
Sumatra p. 274 figs., WHEELER t.c.

Xylophagus (*Anaxylophagus* subgen.
n. type *nitidus* Adams) p. 216, *politus*
sp. n. Colorado p. 217 MALLOCH in
MALLOCH, GREENE & MCATEE Proc.
Ent. Soc. Wash. 33.

THEREVIDAE.

Therevidae of S. Africa, KRÖBER Ann.
Transv. Mus. 14 pp. 103-134, 14 figs.

Actorthia capensis sp. n. S. Africa p.
119 fig., KRÖBER Ann. Transv. Mus. 14.

Braunsiphila subgen. n. see *Ectinor-*
rhynchus.

Caenophthalmus gen. n., *bellus* sp. n.
S. Africa p. 128 fig., KRÖBER t.c.

Ectinorrhynchus braunsi p. 114,
(*Braunsiphila* subgen. n.) *nubeculipennis*
p. 117, spp. n. S. Africa figs., KRÖBER
t.c.

Neophycus gen. n., *antennatus* sp. n.
Kamerun p. 106 fig., KRÖBER t.c.

Neotabuda gen. n., *ater* sp. n. S. Africa
p. 116 fig., KRÖBER t.c.

Psilocephala pallidicornis sp. n.
Kabinda p. 123 fig., KRÖBER t.c.—*P.*
argentina sp. n. Japan p. 80 fig., MAT-
SUMURA Thous. Ins. Japan 2 1905.

Thereva major sp. n. Japan p. 79 fig.,
MATSUMURA t.c.

SCENOPINIDAE (OMPHRALIDAE).

Scenopinus key to African spp. p.
114, *inquilinus* p. 113, *stenogaster* p. 114,
spp. n. Mozambique, SÉGUY Bull. Mus.
Paris (2) 3.

NEMESTRINIDAE.

Rhynchocephalus key to Nearctic spp.,
maculatus p. 69, *flavus* p. 70, spp. n.
Kansas, CURRAN Canad. Ent. 63.—*R.*
sackeni oviposition habits pp. 21-24 fig.,
SPENCER Proc. Ent. Soc. Br. Columbia
28.

CYRTIDAE.

Cyrtus key p. 219, *albofimbriatus* sp.
n. China p. 220 fig., HILDEBRANDT
Annu. Mus. zool. Acad. Leningrad 31
1930.

Lasia revision of N. American spp.
11 pp., key p. 4, *yucatanensis* Yucatan
p. 9, *ecuadorensis* Ecuador p. 10, spp.
n., BEQUAERT Amer. Mus. Nov. no.
455.

ASILIDAE.

British Asilidae and their prey,
HOBBY Trans. Ent. Soc. S. England
1930 pp. 1-42.

British Asilidae and their prey,
POULTON Proc. Ent. Soc. Lond. 5 pp.
86-87.

Andrenosoma camposi sp. n. Ecuador
p. 20, CURRAN Amer. Mus. Nov. 487.
—*A.* some spp. see *Pilica*.

Astochia inermis from Sumatra p.
490, ENGEL Arch. Hydrobiol. Stuttgart
Suppl. 8.

Bombomima engelhardti sp. n. Colorado
p. 434, BROMLEY Ann. Ent. Soc. Amer.
24.

Cerdistus unicus sp. n. Aden p. 137,
BECKER Denkschr. Akad. Wiss. Wien
71 no. 2 (1907) 1931.

Cophura key p. 5, *panamensis*
Panama p. 6, *stylosa*, *lutzi* U.S.A. p. 7,
spp. n., CURRAN Amer. Mus. Nov. 487.

Deromyia neoternata sp. n. Kansas p.
433, BROMLEY Ann. Ent. Soc. Amer.
24.

Dysmachus strigitibia sp. n. Ecuador
p. 25, CURRAN Amer. Mus. Nov. 487.

Erax key to Porto Rican spp.,
stylatus F. (= *rufitibia* Macq., *haitensis*
Curr.) p. 9; *forbesi* sp. n. Porto Rico
p. 10 fig., CURRAN op. cit. no. 456.—*E.*
camposiana sp. n. Ecuador p. 23,
CURRAN op. cit. no. 487.

Eremodromus noctivagus distribution
p. 181, ♀ p. 182 figs., ZIMIN Bull. Inst.
Contr. Pests Dis. 1.

Habropogon bipartitus sp. n. Algeria
p. 37, VILLENEUVE Bull. Ann. Soc. ent.
Belg. 71.

Heteropogon rubrifasciatus sp. n. N.
Carolina p. 423, BROMLEY Ann. Ent.
Soc. Amer. 24.

Laphria stygia sp. n. N. Carolina p.
433, BROMLEY t.c.—*L. formidolosa* and
other spp. see *Pilica*.

Laphystia key p. 11, *rufofasciata* p. 13, *texensis* p. 14, *varipes* p. 15, *ochreifrons*, *litoralis* p. 16, *rufiventris* p. 17 U.S.A., *salti* Colombia p. 18 spp. n.; *notata* Big. (= *sexfasciata* Big. nec Say) p. 13, CURRAN Amer. Mus. Nov. no. 487.

Lestomyia strigipes sp. n. U.S.A. p. 3, CURRAN t.c.

Mallophora acra sp. n. U.S.A. p. 21, CURRAN t.c.—*M. vegeta* further description; *dallasi* sp. n. Argentina p. 265, GEMIGNANI Rev. Soc. ent. argent. 3.

Nusa some spp. see *Pilica*.

Pilica gen. n. for *Laphria formidolosa* Wlk. scope p. 20, CURRAN Amer. Mus. Nov. no. 487.

Proctacanthus bromleyi sp. n. Colombia p. 22, CURRAN t.c.

Promachus aberrans sp. n. Ussuri p. 221; *guineensis* p. 223, *pallipennis* p. 224 further descriptions, key to Palaearctic spp. p. 225, PARAMONOW Trav. Mus. zool. Kiev no. 10.—*P. hinei* sp. n. Ohio p. 435, BROMLEY Ann. Ent. Soc. Amer. 24.

Psilocurus camposi Ecuador p. 8, *birdi* U.S.A. p. 9, spp. n., CURRAN Amer. Mus. Nov. no. 487.

Regasilus gen. n., *strigaria* sp. n. Ecuador p. 24, CURRAN t.c.

Saropogon birdi sp. n. U.S.A. p. 2, CURRAN t.c.

Sisyrnodytes disjunctus Mozambique p. 654, *rufus* Algeria p. 655, spp. n., SÉGUY Bull. Mus. Paris (2) 2 (1930).

Stenopogon key p. 427, *coyote*, *felis* p. 429, *neglectus* p. 430, *rufibarbis*, *texanus* p. 431, spp. n. U.S.A., BROMLEY Ann. Ent. Soc. Amer. 24.

Stichopogon aequitinctus sp. n. Aden p. 138, BECKER Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

BOMBYLIIDAE.

Key to Bombyliidae of Porto Rico and Virgin Is., CURRAN Amer. Mus. Nov. no. 456 p. 6.

Revision of several genera of Bombyliidae, with keys, PARAMONOW Trav. Mus. zool. Kiev no. 11 pp. 1-218.

Amictus revision, key to Palaearctic spp. p. 5, *aegyptiacus* Egypt p. 7, *firjuzanus* Transcaspia p. 8, *funebri*

Tashkent p. 10, *similis* Bokhara p. 20, spp. n., PARAMONOW Trav. Mus. zool. Kiev no. 11.

Anthrax putealis sp. n. Japan p. 82 fig., MATSUMURA Thous. Ins. Japan 2 1905.—*A. fuscipennis* Ric. (= *Argyromoeba dentata* Beck.) p. 132, BECKER Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Antonia characters, key p. 238 fig., SÉGUY Ann. Mus. Genova 55.

Argyromoeba dentata see *Anthrax fuscipennis*.

Bombylius horni Eritrea p. 237, no. 10, *chinensis* China p. 76 no. 11, spp. n., PARAMONOW Trav. Mus. zool. Kiev.

Callistoma fascipennis subsp. n. *palaestinae* Jerusalem p. 123, PARAMONOW op. cit. 11.

Conophorus hindlei sp. n. China pp. 122, 213, PARAMONOW t.c.

Cyllenia globiceps ♂ p. 123, PARAMONOW t.c.

Cyrtomyia chilensis sp. n. Chile p. 41, PARAMONOW t.c.

Diplocampta secunda sp. n. Chile p. 45, PARAMONOW t.c.—*D. roederi* sp. n. Porto Rico p. 8 fig., CURRAN Amer. Mus. Nov. no. 456.

Exoprosopa erythrocephala biology pp. 155-158, RUIZ Rev. chil. Hist. nat. 34 1930.—*E. tewfikii* p. 89, *ammophila* p. 91, spp. n. Egypt, PARAMONOW Trav. Mus. zool. Kiev no. 11.

Hemipenthes argentifrons p. 133, *alatus* p. 134, spp. n. Sokotra I., BECKER Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Heterotropus nigrimanus sp. n. Tunisia p. 106, SÉGUY Ann. Soc. ent. Fr. 100.

Hyperalonia key to E. Asian spp. of group *albicincta* p. 192, *celebesi* p. 194, *macassarensis* Celebes, *orientalis* p. 198 (with ab. n. *latipennis*), *shirakii* p. 199, *formosana* p. 195 Formosa, spp. n., PARAMONOW Trav. Mus. zool. Kiev no. 11.

Lotamia key to Palaearctic spp. p. 125, *belzebrul* var. n. *loewi* Morocco p. 142; *graeca* var. n. *erinnoides* Greece p. 148, PARAMONOW t.c.

Lyophlaeba key p. 28, *blanchardi*, *philippii* p. 30, *chilensis* p. 34, *minuta* p. 38 Chile, *boliviana* Bolivia p. 32, spp. n., PARAMONOW op. cit. 10.

Oestranthrax arabicus Arabia p. 95, *karavajevi* Daghestan p. 99 spp. n.; *obesus* subsp. n. *alfierii* Egypt p. 101, PARAMONOW op. cit. 11.

Pachyneres australis sp. n. Philippines p. 205 fig., MALLOCH Aust. Zool., Sydney 3 1924.

Paranthrax gen. n., *africanus* sp. n. W. Africa p. 57, PARAMONOW Trav. Mus. zool. Kiev no. 11.

Petrorossia media sp. n. Mozambique p. 117 fig., SÉGUY Bull. Mus. Paris (2) 3.

Systoechus vulpinus sp. n. Aden p. 135, BECKER Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.—*S. marshalli* sp. n. Cape Province p. 238, PARAMONOW Trav. Mus. zool. Kiev no. 10.

Tamerlania gen. n., *grisea* sp. n. Bukhara p. 203, PARAMONOW op. cit. 11.

Usia distribution pp. 282–284, PARAMONOW Zool. Anz. 96.

Villoestrus gen. n., *uvarovi* sp. n. Jerusalem p. 93, PARAMONOW Trav. Mus. zool. Kiev no. 11.

EMPIDAE.

Empidæ of Belgium, GOETGHEBUER Mém. Soc. ent. Belg. 23 pp. 167–176.

Atrichopleura compitalis Coll. further description; *conjuncta* sp. n. New Zealand p. 424 figs., MALLOCH Rec. Canterbury Mus. 3.

Azelempis gen. n. p. 9, *fulvithorax* (type), *fasciventris* spp. n. Panama p. 10, CURRAN Amer. Mus. Nov. no. 467.

Ceratomerus crassinervis sp. n. New Zealand p. 428 figs., MALLOCH Rec. Canterbury Mus. 3.—*C. longifurcatus* sp. n. New Zealand p. 352 fig., COLLIN Ann. Mag. N.H. (10) 8.

Chelipoda digressa sp. n. New Zealand p. 353 fig., COLLIN t.c.

Clinocera feuerborni sp. n. Java p. 487 fig., ENGEL Arch. Hydrobiol. Suppl. 8.

Coloboneura longicornis sp. n. Panama p. 11, CURRAN Amer. Mus. Nov. no. 467.

Empis browni sp. n. Canada p. 93, CURRAN Canad. Ent. 63.—*E. panamensis* sp. n. Panama p. 8, CURRAN Amer. Mus. Nov. no. 467.

Eukhybos antiqua p. 2, *vitripennis*, *donato* p. 3, *algens* p. 4, *agens*, *negundus* p. 5, *panamensis* p. 6, spp. n. Panama, CURRAN t.c.

Gynatoma atra sp. n. New Zealand p. 426, MALLOCH Rec. Canterbury Mus. 3.

Kowarzia velutina sp. n. Java p. 488 fig., ENGEL Arch. Hydrobiol. Suppl. 8.

Lactistomyia nigripes, *mammifera*, spp. n. Panama p. 7, CURRAN Amer. Mus. Nov. no. 467.

Rhamphomyia politella sp. n. New Zealand p. 425, MALLOCH Rec. Canterbury Mus. 3.

DOLICHOPODIDAE.

Revision of Dolichopodidae of Palaearctic Region, STACKELBERG in LINDNER Flieg. Pal. Reg. 29 1930 pp. 1–62, 2 pls. 31 figs.

Achalcus albipalpus sp. n. Chile p. 20, fig., PARENT Abh. Mus. Dresden 18.

Argentina gen. n., *annulitarsis* sp. n. Argentina p. 17 figs., PARENT t.c.

Argyra javanensis sp. n. Java p. 17, VAN DUZEE Pan-Pacific Ent. 8.

Asyndetus ridiculus sp. n. Chile p. 7 figs., PARENT Abh. Mus. Dresden 18.

Cheirocerus pennaticornis sp. n. Bolivia p. 11 figs., PARENT t.c.

Chrysosoma parile Africa p. 44, *biciliatum* East Africa p. 45, spp. n. figs., PARENT Ann. Soc. sci. Bruxelles (B) 51 Sci. phys. nat.

Chrysotus key to S. American spp. p. 16, *caudatus* p. 20, *tuberculatus* p. 22 Bolivia, *setosus* p. 20, *parvipalpus* p. 21, *longiventris* (probably Brazil) p. 23 Brazil, spp. n. figs., VAN DUZEE Amer. Mus. Nov. no. 483.—*C. amabilis*, *diligens* p. 7, *hirtus* p. 8, *minor* Peru, *peregrinus*, *singularis*, *velox* p. 9, *eques* p. 7, *giganteus* Bolivia, *errans* Chile p. 8, spp. n. figs., PARENT Abh. Mus. Dresden 18.

Condyllostylus bifasciatus Bolivia p. 3, *miripennis*, *mirus* p. 4, *ornatus*, *pressitarsus* p. 5 Peru, *retrociliatus* Paraguay p. 6, spp. n. figs., PARENT t.c.—*C. selectus* sp. n. Nyasaland p. 43 figs.,

PARENT Ann. Soc. sci. Bruxelles (B) 51 Sci. phys. nat.—*C. ornatipes* sp. n. Argentina p. 253 fig., VAN DUZEE Ann. Mag. N.H. (10) 7.—*C. denticulatus* p. 1, *brevipedis* p. 2, *crassitarsis* p. 3, *bisinuatus* p. 4, *latimanus* p. 5, *distinctus* p. 8, *ornaticauda* p. 9, *setitarsis* p. 10, *tenuitarsis* p. 12, *trimaculatus*, *rubrocauda* p. 13, spp. n. Brazil; *diffusus* ♂ p. 8 figs., VAN DUZEE Amer. Mus. Nov. no. 483.—*C. sexsetosus* p. 1, *tenuimanus* p. 2, spp. n. Honduras figs., VAN DUZEE Amer. Mus. Nov. no. 484.

Cyrtosymbolia gen. n., *sinuosa* sp. n. Peru p. 10 figs., PARENT Abh. Mus. Dresden 18.

Diaphorus amicus Bolivia p. 10, *hamatus*, *superbiens* Peru p. 11, spp. n. figs., PARENT t.c.—*D. adumbratus*, *modestus* spp. n. Nigeria p. 42 figs., PARENT Ann. Soc. sci. Bruxelles (B) 51 Sci. phys. nat.—*D. willistoni* sp. n. locality unknown (probably Brazil) p. 14 fig., VAN DUZEE Amer. Mus. Nov. no. 483.—*D. abruptus* p. 3, *dyeri* p. 4, *longinervis* p. 6, spp. n. Honduras figs., VAN DUZEE op. cit. no. 484.

Dolichopus keys to Palaearctic spp. p. 13, *alexanderi* Turkestan p. 28, *amurensis* p. 29 spp. n.; *fraterculus* var. n. *nigrifemur* p. 54 Siberia figs., STACKELBERG in LINDNER Flieg. Pal. Reg. 29 1930.—*D.* from E. Siberia pp. 135–163, *nataliae* p. 150, *ussuriensis* p. 153, *emeljanovi* p. 155, *martyнови* p. 157, *rezvorum* p. 159, *xanthopyga* p. 161 spp. n.; *lepidus* var. n. *microstigma* p. 154 Siberia; *robustus* p. 154, *uniseta* p. 158, *ringdahli* p. 160 further descriptions figs., STACKELBERG Annu. Mus. zool. Acad. Leningrad 31 1930.

Hercostomus key, *saranganicus* p. 772, *calcaratus* p. 771, *cylindripyga* p. 773, *maculithorax* p. 775, spp. n. Java figs., STACKELBERG Arch. Hydrobiol. Suppl. 8.—*H. plumitarsis* sp. n. Bolivia p. 12 figs., PARENT Abh. Mus. Dresden 18.

Hydrophorus albopictus Chile, *cognatus* Argentina, spp. n. p. 16 figs., PARENT t.c.—*H. patagonicus* sp. n. Patagonia p. 6, VAN DUZEE Amer. Mus. Nov. no. 484.

Kophosoma genitale sp. n. Bolivia p. 3 figs., PARENT Abh. Mus. Dresden 18.

Leptorhethum tenuipes sp. n. Argentina p. 252 fig., VAN DUZEE Ann. Mag. N.H. (10) 7.

Liancalomima gen. n. p. 778, *gracilipes* sp. n. Java p. 779 fig., STACKELBERG Arch. Hydrobiol. Suppl. 8.

Lyroneneurus praestans sp. n. Peru p. 11 fig., PARENT Abh. Mus. Dresden 18.

Macellocerus perplexus sp. n. Chile p. 12 figs., PARENT t.c.

Medetera altera p. 18, *tarsata* Bolivia, *spinulata* p. 19, *plumosa*, *setosa* Peru p. 18, spp. n. figs., PARENT t.c.

Neurigona grossicauda sp. n. Br. Guiana p. 24 fig., VAN DUZEE Amer. Mus. Nov. no. 483.

Notobothrus gen. n., *longilamellatus* sp. n. Peru p. 19 figs., PARENT Abh. Mus. Dresden 18.

Paraclius formosus, *micropygus* Peru, *paraguayensis* Paraguay, spp. n. p. 13 figs., PARENT t.c.—*P. edwardsi* Argentina p. 243, *brevimanus* Uruguay p. 244, spp. n., VAN DUZEE Ann. Mag. N.H. (10) 7.—*P. zonatus* Gold Coast p. 40, *latipennis* Nigeria p. 41, spp. n. figs., PARENT Ann. Soc. sci. Bruxelles (B) 51 Sci. phys. nat.—*P. plumicornis* sp. n. Pasagua p. 25 fig., VAN DUZEE Amer. Mus. Nov. no. 483.—*P. albopilosus* p. 7, *fuscipennis* p. 9, *nigroterminalis* p. 10 Brazil, *viridus* Honduras p. 11, *breviventris* locality unknown p. 8, spp. n. figs., VAN DUZEE op. cit. no. 484.

Pelastoneurus plumicauda Paraguay p. 12, *brasilensis* p. 11, *ochreifacies* p. 13 Brazil, spp. n. figs., VAN DUZEE t.c.—*P. decorus*, *lorifer*, *vanduzeei* spp. n. Peru p. 14 figs., PARENT Abh. Mus. Dresden 18.

Polymedon pressitibia sp. n. Bolivia p. 14 figs., PARENT t.c.

Pseudohercostomus gen. n., *echinatus* sp. n. Java p. 776, STACKELBERG Arch. Hydrobiol. Suppl. 8.

Pycsymnus thienemanni sp. n. Java p. 779 fig., STACKELBERG t.c.

Rhaphium furcifer p. 2, *septentrionale* p. 4, *browni* p. 5, spp. n. Quebec; *vanduzeei* further description p. 6 figs., CURRAN Amer. Mus. Nov. no. 492.

Sciapus albifacies sp. n. Bolivia p. 6 figs., PARENT Abh. Mus. Dresden 18.

Stolidosoma obscurum sp. n. Peru p. 20 figs., PARENT t.c.

Sympycnus comatus Uruguay p. 249, *flaviciliatus* Argentina p. 250 spp. n.; *andicola* Big. further description p. 252 fig., VAN DUZEE Ann. Mag. N.H. (10) 7.

Syntormon rotundicornis sp. n. Brazil p. 24 fig., VAN DUZEE Amer. Mus. Nov. no. 483.—*S. vanduzeei* sp. n. Ontario p. 1, CURRAN Amer. Mus. Nov. no. 492.

Syntormoneurum beckeri sp. n. Peru p. 17, PARENT Abh. Mus. Dresden 18.

Tachytrechus boliviensis Bolivia, *confusus* S. America p. 15, *platyseta* Peru p. 16, spp. n. figs., PARENT t.c.—*T. insolitus* sp. n. Sierra Leone figs., PARENT Ann. Soc. sci. Bruxelles (B) 51 Sci. phys. nat.

Tenuopus maculatus sp. n. Nyasaland p. 46 figs., PARENT t.c.

Teuchophorus paradoxipus sp. n. Java p. 781 fig., STACKELBERG Arch. Hydrobiol. Suppl. 8.

Thinophilus promotus p. 138, *ochripalpis* Aden, *argyropalpis* Port Said p. 139, spp. n., BECKER Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Thrypticus key to ♂ of S. American spp., *penicillatus* p. 246, *nigriseta* p. 247, *edwardsi* p. 248, spp. n. Argentina figs., VAN DUZEE Ann. Mag. N.H. (10) 7.

PHORIDAE.

List of known attophilous Phorids and their hosts, BORGMEIER Arch. Inst. biol. S. Paulo 4 p. 214.

Annotated list of Phoridae of Calvados, MERCIER Bull. Soc. linn. Normandie (8) 3 pp. 50–56.

Phoridae of Patagonia and S. Chile, supplement, SCHMITZ Dipt. Patag. & S. Chile 1931 pt. 6 pp. 43–48, 2 figs.

Apocephalus attophilus characters; *luteihaliteratus* ♀ p. 216; *neivai* p. 217, *barbicauda* p. 218, spp. n. Brazil figs., BORGMEIER Arch. Inst. biol. S. Paulo 4.

Corynusa gen. n. for *Cyphometopis latifrons* Schmitz (type) p. 43, *thoracica* sp. n. S. America p. 44, SCHMITZ Dipt. Patag. & S. Chile 1931 pt. 6.

Cyphometopis latifrons see *Corynusa*.

Dicranopteron gen. n., *philoterme* sp. n. Java p. 176 fig., SCHMITZ Natuurh. Maandbl. 20.

Diploneura (= *Phorynchus* Brun.) *atra* Brun. nec Macq. identity discussed p. 42 fig., SCHMITZ t.c.

Exochaeta gen. n. p. 45, *umbrata* sp. n. S. America p. 46 fig., SCHMITZ Dipt. Patag. & S. Chile 1931 pt. 6.

Franssenia gen. n., *hirundella* sp. n. Java p. 176 fig., SCHMITZ Natuurh. Maandbl. 20.

Gymnophora tenuivena sp. n. S. America p. 47 fig., SCHMITZ Dipt. Patag. & S. Chile 1931 pt. 6.

Megaselia plurispinulosa larva pp. 683–690 figs., TRÄGÅRDH Z. angew. Ent. 18.—*M. opilionidis* p. 143, *crassitarsalis* p. 145, *incrassata* p. 147, spp. n. Brazil figs., BORGMEIER Rev. Ent. S. Paulo 1.

Myrmosicarius characters discussed, key p. 219, *grandicornis* p. 220, *crudehis* p. 221 redescribed; *diabolicus* p. 222, *infestans* p. 223, *persecutor* p. 224, *biarticulatus* p. 225, spp. n. Brazil figs., BORGMEIER Arch. Inst. biol. S. Paulo 4.

Percyclocera arachnophila sp. n. Brazil p. 147 figs., BORGMEIER Rev. Ent. S. Paulo 1.

Phorynchus see *Diploneura*.

TERMITOXENIIDAE.

Termitomyia gracilis sp. n. E. Africa p. 294 figs., REICHENSBERGER Zool. Anz. 93.

Termitosagma gen. n. p. 302, *henningsi* sp. n. E. Africa p. 303 figs., REICHENSBERGER t.c.

Termitostroma gen. n. p. 297, *schmitzi* sp. n. E. Africa p. 299 figs., REICHENSBERGER t.c.

Termitoxenia hemicyclia sp. n. Java p. 176 fig., SCHMITZ Natuurh. Maandbl. 20.

BRAULIDAE.

Braula coeca internal structure pp. 561–582 figs., ALFONSUS & BRAUN Ann. Ent. Soc. Amer. 24.

PIPUNCULIDAE.

Pipunculidae of Patagonia and S. Chile, COLLIN Dipt. Patag. & S. Chile 1931 pt. 6 pp. 52–61, 5 figs.

Chalarus spurius subsp. n. *chilensis* Chile p. 52 fig., COLLIN Dipt. Patag. & S. Chile 1931 pt. 6.

Pipunculus mediocris p. 54, *simulator* p. 56, *posticus* p. 59, *scotinus* p. 60, spp. n. S. America; *palliditarsis* n. n. for *flavitaris* Collin nec Will. p. 56 (note) figs., COLLIN t.c.

Protonephrocercus gen. n., *chiloensis* sp. n. S. America p. 52 fig., COLLIN t.c.

Verrallia British spp. pp. 234-236, COLLIN Ent. Mon. Mag. 67.

PLATYPEZIDAE (CLYTHIIDAE).

Platyppezidae of Patagonia and S. Chile, COLLIN Dipt. Patag. & S. Chile 1931 pt. 6 pp. 49-51, 1 fig.

Platypeza brunnescens sp. n. S. America p. 50 fig., COLLIN Dipt. Patag. & S. Chile 1931 pt. 6.

Platyppezina Wahlg. (= *Thrinacola* End.) p. 10, HENDEL Verh. zool.-bot. Ges. Wien 81.

Thrinacola see *Platyppezina*.

SYRPHIDAE.

Notes on some British Syrphidae, COLLIN Ent. Mon. Mag. 67 pp. 153-159, 177-182, 3 figs.

Syrphidae from North Borneo including Mt. Kinabalu, CURRAN J. F.M.S. Mus. 16 pp. 339-376.

Syrphidae from the Malay Peninsula, CURRAN J. F.M.S. Mus. 16 pp. 290-338.

Monograph of Syrphidae of Spain, GIL COLLADO Trab. Mus. Cienc. Madrid Zool. 54 1930 376 pp. 89 figs.

List of Syrphidae from Sunda Is., SACK Arch. Hydrobiol. Suppl. 8 pp. 585-592, 8 figs.

Revision of Syrphidae of Palaearctic Region (contd.), SACK in LINDNER Flieg. Pal. Reg. 31 pp. 241-366, 4 pls. 48 figs.

Azpeytia albomaculata sp. n. Selangor p. 329; *scutellaris* Wlk. (= *Eumerus trepidus* Curr.) p. 330, CURRAN J. F.M.S. Mus. 16.

Baccha key p. 321, *maculata* Wlk. (= *austeni* de Meij., *eronis* Curr.); *nigrarex* p. 324, *chalybescens* p. 326 Selangor, *gigas* Borneo pp. 322, 356 spp. n.; *pedicellata* Doles. distinct sp. p. 357, CURRAN J. F.M.S. Mus. 16.

Ceria eumenioides life-history pp. 503-508 figs., BHATIA Ind. J. Agric. Sci. 1.

Cerioides siamensis sp. n. Siam p. 299, CURRAN J. F.M.S. Mus. 16.

Cheilosia yezonica sp. n. Japan p. 95 fig., MATSUMURA Thous. Ins. Japan 2 1905.—*C. browni* sp. n. Canada p. 96, CURRAN Canad. Ent. 63.

Cinxia borealis subsp. n. *ciscaucasica* Caucasia p. 15; *lappona* subsp. n. *orientalis* Manchuria p. 18; *arctica* var. n. *obscurior* Tobolsk; *jakutica* sp. n. Jakutsk p. 21, STACKELBERG Mat. Comm. Etude Républ. Auto. Soviet, Iakoute 20 1927.

Cnemodon latitarsis a British sp. p. 154; *verrucula* sp. n. Br. Isles p. 155, COLLIN Ent. Mon. Mag. 67.

Criorrhina ranunculi var. n. *hispanica* Spain p. 269 fig., GIL COLLADO Trab. Mus. Cienc. Madrid Zool. 54 1930.

Eristalis nigricans sp. n. Japan p. 93 fig., MATSUMURA Thous. Ins. Japan 2 1905.—*E. griseescens* sp. n. Turkestan p. 256, SACK in LINDNER Flieg. Pal. Reg. 31.—*E. quinquestriatus* life-history pp. 508-510 figs., BHATIA Ind. J. Agric. Sci. 1.—*E. abusivus* sp. n. England p. 180, COLLIN Ent. Mon. Mag. 67.—*E. penangensis* Penang p. 337, *cerealoides* Borneo pp. 336, 374, spp. n., CURRAN J. F.M.S. Mus. 16.—*E. simpliciceps* see *Keda*.

Eumerus tuberculatus early stages pp. 57-58 figs., HODSON Bull. Ent. Res. 22.—*E. trepidus* see *Azpeytia scutellaris*.

Helophilus frequens p. 103, *flaviceps* p. 104, spp. n. Japan figs., MATSUMURA Thous. Ins. Japan 2 1905.—*H. curviger* life-history pp. 510-513 fig., BHATIA Ind. J. Agric. Sci. 1.

Keda gen. n. for *Eristalis simpliciceps* de Meij. p. 331, CURRAN J. F.M.S. Mus. 16.

Klossia gen. n., *dimidiata* sp. n. Borneo p. 370, CURRAN t.c.

Korinchia pendleburyi sp. n. Borneo p. 373, CURRAN t.c.

Lampetia key to Palaearctic spp. p. 296, *hispanica* Spain p. 319, *nana* Kurdistan p. 322, *quadrinotata* Mesopotamia p. 324, spp. n., SACK in LINDNER Flieg. Pal. Reg. 31.

Lathyrophthalmus selectans sp. n. Selangor p. 334, CURRAN J. F.M.S. Mus. 16.

Mallota malayana n. n. for *eristoloides* Curr. nec Lw. p. 328, CURRAN t.c.

Melanostoma algens p. 359, *normalis* p. 361, spp. n. Borneo, CURRAN t.c.—*M. nitidiventris* p. 252, *agens* p. 253, spp. n. Canada, CURRAN Canad. Ent. 63.—*M. lundbecki* sp. n. Greenland p. 68, COLLIN Ann. Mag. N.H. (10) 7.

Merodon key p. 91, *dzhaliata* sp. n. Crimea p. 89; *clavipes* ff. n. *alba*, *nigra* p. 90, *atra* p. 91 Odessa, PARAMONOV Bull. Acad. Sci. Ukraine 2 1926.—*M. bolivari* p. 248, *affinis* p. 255 spp. n.; *spinipes* varr. n. *bicolor*, *grossus* p. 254; *aeneus* varr. n. *crassitarsatus*, *fulvus* p. 262 Spain figs., GIL COLLADO Trab. Mus. Cienc. Madrid Zool. 56 1930.

Merodonoides gen. n., *circularis* sp. n. Malay p. 333, CURRAN J. F.M.S. Mus. 16.

Microdon key to Malayan and Borneo spp. p. 300, *aeneoviridis* p. 302, *alboscutatus* p. 303, *pretiosa* p. 304, *pendleburyi* p. 305, *luxor* p. 306 Malaya, *laticutellaris* pp. 301, 341, *minuticornis* pp. 301, 342, *klossi* pp. 302, 343, *stenogaster* pp. 302, 344 Borneo, spp. n., CURRAN t.c.

Milesia insistens pp. 308, 345, *metallica* pp. 309, 347, spp. n. Borneo, CURRAN t.c.

Penium dubium Lundb. see *Pipizella heringi*.

Pipizella heringi Zett. (= *Penium dubium* Lundb. nec Big.) p. 153, COLLIN Ent. Mon. Mag. 67.

Platychirus peltatus var. n. *islandicus* Iceland p. 173, RINGDAHL Ent. Tidskr. 51 1930.—*P. felix* p. 94, *femineum* p. 251, spp. n. Canada, CURRAN Canad. Ent. 63.

Pocota apiformis in England p. 98, POULTON Proc. Ent. Soc. London 5.

Pseudovolucella fasciata sp. n. Borneo p. 369, CURRAN J. F.M.S. Mus. 16.

Pyrophaena granditarsa var. n. *lindrothi* Iceland p. 173, RINGDAHL Ent. Tidskr. 51 1930.

Rhingia apicalis sp. n. Japan p. 97 fig., MATSUMURA Thous. Ins. Japan 2 1905.—*R. varipennis* p. 364, *uniformis* p. 365, spp. n. Borneo, CURRAN J. F.M.S. Mus. 16.

Sphaerophoria cylindrica life-history pp. 216–221 [in Japanese] figs., NINOMIYA Oyo-Dobuts. Zasshi 3.

Syritta pipiens early stages pp. 57–58 figs., HODSON Bull. Ent. Res. 22.—*S. capitata* sp. n. Sumatra p. 590 figs., SACK Arch. Hydrobiol. Suppl. 8.

Syrphus noboritoensis sp. n. ? Japan p. 251, NINOMIYA Oyo-Dobuts. Zasshi 2 1930 [not seen].—*S.* key p. 290, *infuscatus* p. 297, *weborgi* p. 299, spp. n. Wisconsin figs., FLUKE Trans. Wisc. Acad. Sci. Arts Lett.

26.—*S. latilunulatus* sp. n. Britain p. 179 fig., COLLIN Ent. Mon. Mag. 67.—*S. tarsatus* further characters p. 69; *arcuatus* morphological notes on Greenland ff. p. 70 figs., COLLIN Ann. Mag. N.H. (10) 7.—*S.* key p. 311, *obligatus* p. 316, *morna* p. 317 Malaya, *peteus* pp. 315, 349, *kinabalensis* pp. 312, 350, *fascipleura* pp. 313, 352, *hirsuteron* pp. 312, 353 Borneo, spp. n., CURRAN J. F.M.S. Mus. 16.

Volucella bombylans position of sexes in pairing pp. 67–68, POULTON Proc. Ent. Soc. London 5.

Xylota morna sp. n. Borneo p. 367; *nigroaenescens* Rond. (= *striga* de Meij., *petulans* Curr.) p. 368, CURRAN J. F.M.S. Mus. 16.

CONOPIDAE.

Sexual distinctions in Conopidae, FALKNER Ent. Mon. Mag. 67 pp. 61–62.

Conopidae of S. Africa, KRÖBER Ann. Transv. Mus. 14 pp. 49–102, 26 figs.

Conops bicolor sp. n. S. Africa p. 90 figs., KRÖBER Ann. Transv. Mus. 14.

Physocephala braunsi p. 61, *capensis* p. 63, *brevistylata* p. 65, spp. n. S. Africa figs., KRÖBER t.c.—*P. lucida* sp. n. Ontario p. 284, VAN DUZEE Canad. Ent. 63.

Muscidae Calyptratae.

Old World Oestromuscoid types, with much synonymy, TOWNSEND Ann. Mag. N.H. (10) 8 pp. 369–391.

American Oestromuscoid types, with much synonymy, TOWNSEND Rev. Ent. S. Paulo 1 pp. 65–104, 157–183.

OESTRIDAE.

Morphological and biological notes on some Indian Oestridae, FLETCHER & SEN J. Centr. Bur. Anim. Husb. Dairy-ing India 4 pt. 3 pp. 90–104, 2 pls., pt. 4 pp. 127–138, 5 pls.

Oestridae from Ussuri, PLESKE Annu. Mus. zool. Acad. Leningrad 31 1930 pp. 201–205.

Alouattamyia gen. n. for *Cuterebra baeri* Sh. & Gr. p. 319, TOWNSEND Rev. Ent. S. Paulo 1.

Cephenemyia grandis see *Guerini-oestrus*.

Crameria see *Semiomyia*.

Cuterebra enderleini sp. n. Texas p. 20 figs., BAU Mitt. deuts. ent. Ges. 2.—*C. cuniculi* Clark designated type of subgen. *Paracuterebra*; *lepusculi* Tns. of *Orthocuterebra*; *americana* F. of *Procuterebra* p. 117, ALDRICH Proc. Ent. Soc. Wash. 33.—*C. baeri* see *Alouattamyia*.

Dermatobia hominis morphology pp. 35–37 figs., TRAVASSOS Bol. biol. fasc. 18.

Gastrophilus intestinalis mating habits p. 252, DICK & FALKNER Ent. Mon. Mag. 67.—*G. meridionalis* (?) larva described, biology p. 550 figs., DINULESCU C.R. Acad. Sci. Fr., Paris 193.

Guerinioestrus gen. n. for *Cephemyia grandis* Guér. p. 318, TOWNSEND Rev. Ent. S. Paulo 1.

Hypoderma aeratum sp. n. Cyprus p. 423 figs., AUSTEN Bull. Ent. Res. 22.—*H. bovis* biology pp. 185–192 figs., BLAGOWESCHTCHENSKY & PAWLOWSKY Z. Parasitenk., Berlin 3; descriptions, biology pp. 144–149, GALLI-VALERIO Bull. Murith., Sion, Valais 48.

Lithohypoderma possible previous aquatic habits of larvae deduced from fossil remains p. 50, BRADLEY Prof. Pap. U.S. Geol. Surv. 168.

Semiomyia Macq. (= *Crameria* R.-D.) p. 385, TOWNSEND Ann. Mag. N.H. (10) 8.

TACHINIDAE.

Notes on Francis Walker's types of N. American Tachinidae, ALDRICH Proc. U.S. Nat. Mus. 80 no. 2910 16 pp.

Tachinidae from Kiev Govt., BELANOVSKIÏ Trav. Mus. zool. Kiev no. 10 pp. 17–42, 2 figs.

Characters of tribe *Cylindromyiini* (key p. 327), MALLOCH Ann. Mag. N.H. (10) 7 p. 314.

Annotated list of 20 Tachinid parasites of Lepidoptera of Germany, RIEDEL Ent. Anz. 11 pp. 397–400.

Annotated list of Tachinids of Dobruja, SUSTER Ann. sci. Univ. Jassy 16 pp. 585–600.

Criticism of Stein's "Die verbreiteten Tachiniden Mitteleuropas" with much synonymy, VILLENEUVE Konowia 10 pp. 47–74.

Abepalpus gen. n. (Cuphocerati), *archytoides* sp. n. Brazil p. 449, TOWNSEND Rev. Ent. S. Paulo 1.

Acromiodesia gen. n. for *Musca acromion* Wied. p. 335, TOWNSEND t.c.

Acronarista cornuta sp. n. U.S.A. p. 26, REINHARD Ent. News 42.

Actia tibialis pupa p. 354 fig., GIL COLLADO Eos 7.—*A. anomala* var. n. *lichtwardtiana* no locality p. 61, VILLENEUVE Konowia 10.

Acuphocera sumatrensis see *Cuphocera varia*.

Admontia podomyia var. n. *capitata* Alps p. 63, VILLENEUVE Konowia 10.

Adoryphorophaga gen. n. for *Doryphorophaga aberrans* Towns. p. 469, TOWNSEND Rev. Ent. S. Paulo 1.

Alpinoplagia gen. n. (Voriini) p. 475, *boliviana* sp. n. Bolivia p. 476, TOWNSEND t.c.

Anachaetopsis ocypterina var. n. *luteisquama* no locality p. 59, VILLENEUVE Konowia 10.

Anaperistommyia Towns. (= *Macropia* Mall.) p. 296, MALLOCH Proc. Linn. Soc. N.S.W. 56.

Anaporia see *Pseudeuantha*.

Androcyptera see *Cylindromyia*.

Anepalpus gen. n. (Juriniini) p. 444, *hystrix* sp. n. Peru p. 445, TOWNSEND Rev. Ent. S. Paulo 1.

Anetia obconica Wlk. from *Tachina* p. 12, ALDRICH Proc. U.S. Nat. Mus. 80 no. 2910.

Anhangabahuia gen. n. (Trypherini) p. 470, *analís* sp. n. Brazil p. 471, TOWNSEND Rev. Ent. S. Paulo 1.

Apilia Mall. status p. 298, MALLOCH Proc. Linn. Soc. N.S.W. 56.

Archytas metallica R.-D. from *Jurinia*, synonymy p. 120, ALDRICH Proc. Ent. Soc. Wash. 33.—*A. apicifera* Wlk. (= *vulgaris* Curr.) p. 14; *aterrima* R.-D. (= *metallifera* Wlk., *carbonifera* Wlk.) p. 15, ALDRICH Proc. U.S. Nat. Mus. 80 no. 2910.

Asilidotachina gen. n. (Salmaciinae) p. 461, *elongata* sp. n. Peru p. 462, TOWNSEND Rev. Ent. S. Paulo 1.

Atractoclesia gen. n. for *Uclesia retracta* Aldr. p. 460, TOWNSEND t.c.

Atrichiopoda gen. n. (Phasiinae) p. 322, *oviventris* sp. n. Peru p. 323, TOWNSEND t.c.

Austrotaurochaeta gen. n. for *Degeeria antarctica* Thom. p. 476, TOWNSEND t.c.

Bathydexia wulpii n. n. for *Phorostoma appendiculata* Wulp nec Big. p. 347, TOWNSEND t.c.

Bavariella gen. n. (nr. *Nemorilla*) p. 23, *brevicilia* sp. n. Kiev. p. 24, BELANOVSKIĖ Trav. Mus. zool. Kiev no. 10.

Blephariatacta gen. n. (Belvosiini) p. 467, *brasiliiana* sp. n. Brazil p. 468 TOWNSEND Rev. Ent. S. Paulo 1.

Bombyliojeania gen. n. for *Dejeania canescens* Mcq. p. 352, TOWNSEND t.c.

Calohystricia gen. n. for *Hystricia velutina* Wulp p. 350, TOWNSEND t.c.

Campylochaeta see *Gaedartia*; *C. glauca* (*metallica*) see *Clemeles*.

Carcelia ambigua sp. n. France p. 74, VILLENEUVE Konowia 10.—*C. morphology, biology* pp. 1–20, key to known spp. p. 21, key to European spp. p. 25, *pilosa* Bosnia p. 29, *rasella* Serbia p. 44, *buitenzorgiensis* Java p. 45, *aberrans* p. 27, *prima*, *secunda* p. 31, *tertia*, *distincta* p. 32, *quaria*, *quinta*, *rufa* p. 33, *sexta* p. 34, *septima*, *octava* p. 35, *pilosella* p. 37, *hirsuta* p. 38, *caudata* p. 41, *rasoides* p. 48, *frontalis* p. 43, *setosella* p. 44 *Formosa*, spp. n. figs., BARANOFF Inst. Hyg. Schule Volksgesundh. Zagreb, Arb. parasit. Abt. no. 3.—*C. rasella* Baran. (= *ambigua* Villen.) p. 290, BARANOFF Konowia 10.

Catharosia varicolor Curr. generic status discussed p. 295, MALLOCH Proc. Linn. Soc. N.S.W. 56.

Ceratometopa gen. n. (Dexillini) p. 340, *cornifera* sp. n. Argentina p. 341, TOWNSEND Rev. Ent. S. Paulo 1.

Ceromasia sordidisquama see *Oswaldia muscaria*.

Chaetonodexodes characters p. 206, *marshalli* sp. n. Trinidad p. 207, ALDRICH Ann. Mag. N.H. (10) 8.

Chaetophlepsis orbitalis sp. n. U.S.A. p. 2; *tarsalis* Twins. ♂ p. 4, WEBBER Proc. U.S. Nat. Mus. 78 no. 2863.

Chaetotheresia gen. n. for *Musca crassa* Wied. p. 346, TOWNSEND Rev. Ent. S. Paulo 1.

Chiloclista gen. n. (Macquartiini), *bicolor* sp. n. Chile p. 334, TOWNSEND t.c.

Chlorohystricia reinwardtii Wied. from *Tachina*, type, (= *purpurea* Towns.) p. 452, TOWNSEND t.c.

Chryseria see *Clytiomya*.

Chrysotachina braueri n. n. for *Tachina reinwardtii* B.B. nec Wied. p. 452, TOWNSEND Rev. Ent. S. Paulo 1.

Clemeles R.D. (= *Tritochaeta* B.B.) *glauca* Karsch (= *metallica* Bez.) from *Campylochaeta* p. 36, VILLENEUVE Bull. Ann. Soc. ent. Belg. 71.

Clytiomya Rond. (= *Chryseria* R.-D.) p. 387, TOWNSEND Ann. Mag. N.H. (10) 8.

Cnephautachina asiatica sp. n. Uzbekistan p. 175 figs., ZIMIN Bull. Inst. Contr. Pests Dis. 1.

Coleophasia gen. n. for *Hesperophasia pacifica* Curr. p. 327, TOWNSEND Rev. Ent. S. Paulo 1.

Cuphocera varia F. (= *Acuphocera sumatrensis* Towns.) p. 38, VILLENEUVE Bull. Ann. Soc. ent. Belg. 71.

Curtocera (= *Duvaucelia* R.D.) p. 389, TOWNSEND Ann. Mag. N.H. (10) 8.

Cylindromyia Mg. (= *Opsocyptera* Towns., *Androcycptera* Towns.) p. 320, *umbripennis* ♂; *fuscipennis* Wied. (= *optima* Towns.); *hirtipleura* sp. n. Selangor p. 321, MALLOCH Ann. Mag. N.H. (10) 7.

Degeeria luctuosa larval morphology, biology pp. 158–162 figs., SICARD Bull. Soc. ent. Fr. 1931.—*D. antarctica* see *Austrotaurochaeta*.

Dejeania canescens see *Bombyliojeania*; *plumitarsis* see *Parechinotachina*.

Delta see *Deltomyza*.

Deltoceromyia gen. n. (Actiini) p. 477, *delta* sp. n. Peru p. 478, TOWNSEND Rev. Ent. S. Paulo 1.

Deltomyza n. n. for *Delta* Mall. nec Saalmull. p. 298, MALLOCH Proc. Linn. Soc. N.S.W. 56.

Dexia aucta see *Neoeuantha*; *thomae* see *Tromodesiana*; *pyrrhoprocta* see *Pyrrhodexia*.

Dictya uncana see *Oestrophasiana*.

Digonochaeta setipennis biology pp. 957-961, MOTE, STEARNS & DIMICK J. Econ. Ent. 24.

Dolichocryptera gen. n. (Phasiinae), p. 325, *pirioni* sp. n. Chile p. 326, TOWNSEND Rev. Ent. S. Paulo 1.

Doriella gen. n. for *Tachina distincta* Wied. p. 471, TOWNSEND t.c.

Doryphorophaga aberrans see *Adoryphorophaga*.

Duvaicelia R.-D. (= *Philippolophosia* Towns.) characters, *imbuta* Wied. from *Paralophosia*, redescription; *bicincta* R.-D. (= *Xenolophosia hamulata* Villen.) type, re-description p. 315; *tricincta* sp. n. Selangor p. 318, MALLOCH Ann. Mag. N.H. (10) 7.—See *Curtocera*.

Echinopyrrhoslops gen. n. for *Saundersia decorata* Eng. p. 443, TOWNSEND Rev. Ent. S. Paulo 1.

Engelomyia n. n. for *Hystrieciella* Eng. nec Towns. p. 349; type *alpina* n. n. for *tarsata* Eng. nec Sch. p. 350, TOWNSEND Rev. Ent. S. Paulo 1.

Epigrimyia townsendi sp. n. Porto Rico p. 22, CURRAN Amer. Mus. Nov. no. 456.

Epimeigenia gen. n. (Phoroceratini), *argentina* sp. n. Argentina p. 463, TOWNSEND Rev. Ent. S. Paulo 1.

Ernestiopsis gen. n. (Ernestiini), *erigonopsidis* sp. n. Chile p. 454, TOWNSEND t.c.

Erycia longicornis sp. n. Kiev p. 25, BELANOVSKIĖ Trav. Mus. zool. Kiev no. 10.

Erythroepalpus gen. n. (Juriniini) p. 438, *aurantiacus* sp. n. Mexico p. 439, TOWNSEND Rev. Ent. S. Paulo 1.

Euanthoides gen. n. (Sophiini), *petiolata* sp. n. Mexico p. 337, TOWNSEND t.c.

Eugymnogaster n. n. for *Gymnogaster* Towns. preocc. type *montana* Coq. p. 328, TOWNSEND t.c.

Eujurinia jicaltepecica n. n. for *Hystricia pollinosa* Towns. nec Wulp p. 354, TOWNSEND t.c.

Eujuriniopsis gen. n. for *Hystricia pollinosa* Wulp p. 354, TOWNSEND t.c.

Eumesembrinella gen. n. for *Musca quadrilineata* F. p. 69, TOWNSEND t.c.

Euphasia Towns. (= *Neophasia* B.B.) p. 387, TOWNSEND Ann. Mag. N.H. (10) 8.

Euptilodegeeria gen. n. for *Hypostena obumbrata* Wulp p. 465, TOWNSEND Rev. Ent. S. Paulo 1.

Eutachina rustica see *Exorista simulans*.

Eutelothyria gen. n. (Telothyriini) p. 332, *itaguaecetubae* sp. n. Brazil p. 333, TOWNSEND Rev. Ent. S. Paulo 1.

Eutrichogena clesides Wlk. from *Wagneria* (= *setipennis* Coq.) p. 3, ALDRICH Proc. U.S. Nat. Mus. 80 no. 2910.

Evihrissa huttoni sp. n. New Zealand p. 386 fig., MALLOCH Rec. Canterbury Mus. 3.

Exorista confinis relationship with similar species discussed p. 117, *distincta* p. 120, *vicinalis* p. 123, spp. n. Formosa figs., BARANOFF Wien. ent. Ztg. 48.—*E. simulans* Mg. (= *Eutachina rustica* Mg.) p. 12, ALDRICH Proc. U.S. Nat. Mus. 80 no. 2910.

Fabriciella revision of ♂♂ of Nearctic spp. pp. 643-678, key p. 647, *cordiforceps* Utah p. 649, *argentea* p. 654, *ampliforceps* p. 673 Alberta, spp. n.; *florum* Wlk. (= *dakotensis* Tns., *orientalis* Wlk.) p. 650 figs., ROWE Ann. Ent. Soc. Amer. 24.

Fasslomyia gen. n. (Ernestiini) p. 452, *fantastica* sp. n. Bolivia p. 453, TOWNSEND Rev. Ent. S. Paulo 1.

Formosodoria foeda see *Sturmia dilabida*.

Formosolophosia hemydoides see *Xenolophosia hamulata*.

Gaedartia R.D. (= *Campylochaeta* B.B.) p. 36, VILLENEUVE Bull. Ann. Soc. ent. Belg. 71.

Gaedia ignavus status p. 218, TAKANO Insect Wld. 35.—*G. ignavus*, *puellae* see *Pales pavidus*.

Gigantoepalpus gen. n. (Juriniini), *heros* sp. n. Venezuela p. 443, TOWNSEND Rev. Ent. S. Paulo 1.

Gonia picea p. 106, *fuscipes* p. 108, spp. n. Japan figs., MATSUMURA Thous. Ins. Japan 2 1905.

Goniomorphomyia steinii sp. n. Persia p. 177, ZIMIN Bull. Inst. Contr. Pests Dis. 1.

Gymnochaeta grandis sp. n. Japan p. 112 fig., MATSUMURA Thous. Ins. Japan 2 1905.

Gymnogaster see *Eugymnogaster*.

Hemimasipoda see *Winthemia*.

Hermysia R.-D. (= *Pseudorectocera* Towns.); *Paraphania* B. & B. probably a synonym; *satanica* Big. from *Penthosia* p. 327; *varipes* p. 329, *minor* p. 331, *albomicans* p. 333 Selangor, *cristata* p. 330, *armiventris* p. 332 Philippines spp. n.; *beelzebul* Wied. (= *Pseudorectocera albifacies* Towns. ♀) p. 331, MALLOCH Ann. Mag. N.H. (10) 7.—*H.* R.-D. (= *Paraphania* B.B.) p. 389, TOWNSEND Ann. Mag. N.H. (10) 8.

Hesperophasia pacifica see *Coleophasia*.

Homosaundersia gen. n. for *Saundersia* rufa Sch. p. 439, TOWNSEND Rev. Ent. S. Paulo 1.

Homosaundersiops gen. n. (Juriniini) p. 445, *haenschii* sp. n. Ecuador p. 446, TOWNSEND t.c.

Hyperecteina longicornis Fall. from *Latigena* p. 35, VILLENEUVE Bull. Ann. Soc. ent. Belg. 71.—*H. polyphyllae* see *Latigena longicornis*.

Hypostena obumbrata Wulp see *Euptilodegeeria*; *obumbrata* B.B. see *Ptilodegeeria lindigi*.

Hystricia testacea see *Lindigepalpus*; *velutina* see *Calohystricia*; *plagiata* see *Lindigia*; *pollinosa* Wulp see *Eujuriniopsis*; *pollinosa* Towns. see *Eujurinia jicaltepecina*.

Hystriciella see *Engelomyia*; *H. aurifrons* see *Jurinia pilosa*.

Hystriomyia revision of Palaearctic spp. pp. 29–35, key p. 32, *nigrosetosa* sp. n. Centr. Gobi p. 34 figs., ZIMIN Annu. Mus. zool. Acad. Leningrad 32.

Iconofrontina gen. n. (Minthoini) p. 330, *minthoidea* sp. n. Argentina p. 331, TOWNSEND Rev. Ent. S. Paulo 1.

Itamintho gen. n. (Dexiini) p. 329, *erro* sp. n. Brazil p. 330, TOWNSEND t.c.

Itavoria gen. n. (Voriini) p. 474, *aureascens* sp. n. Brazil p. 475, TOWNSEND t.c.

Iteuthelaira esuriens F. from *Musca* (= *intermedia* Towns.) p. 468, TOWNSEND t.c.

Jurinia gagatea R.D. (= *Proepalpus paulensis* Towns.) p. 437, TOWNSEND t.c.—*J. pilosa* Dru. (= *hystrix* F., *Hystriciella aurifrons* Towns.) p. 120, ALDRICH Proc. Ent. Soc. Wash. 33.—*J. metallica* Coq. see *Juriniopsis adusta*; *metallica* R.-D. see *Archytas*.

Juriniopsis adusta Wulp (= *hystrix* Will., *floridensis* Towns., *Jurinia metallica* Coq.) p. 120, ALDRICH Proc. Ent. Soc. Wash. 33.

Larvaevora fallax subsp. n. *aethiopica* Sudan p. 348, ROHDENDORF Ann. Mag. N.H. (10) 8.

Latigena longicornis Fall. (= *Hyperecteina polyphyllae* Villen.) p. 26, BELANOVSKIĭ Trav. Mus. zool. Kiev no. 10.—*L. longicornis* see *Hyperecteina*.

Leptidosophia gen. n. (Sophiini) p. 335, *lutescens* sp. n. Peru p. 336, TOWNSEND Rev. Ent. S. Paulo 1.

Lindigepalpus gen. n. for *Hystricia testacea* Macq. p. 444, TOWNSEND t.c.

Lindigia gen. n. for *Hystricia plagiata* Sch. p. 352, TOWNSEND t.c.

Lypha melobosis Wlk. (= *addita* Wlk.) further description p. 10, ALDRICH Proc. U.S. Nat. Mus. 80 no. 2910.

Macquartia buccalis var. n. *flavsquama* p. 32; *setigena* sp. n. Kiev p. 33, BELANOVSKIĭ Trav. Mus. zool. Kiev no. 10.

Macropatelloa gen. n. (Phrynoiini), *tanumeana* sp. n. Chile p. 472, TOWNSEND Rev. Ent. S. Paulo 1.

Macropia see *Anaperistommyia*.

Mesembrierigone gen. n. (Ernestiini) p. 457, *alpina* sp. n. Bolivia p. 458, TOWNSEND Rev. Ent. S. Paulo 1.

Mesembrinormia gen. n. (Tachinoestridae) p. 321, *pertyi* sp. n. Brazil p. 322, TOWNSEND t.c.

Microchaetogyne gen. n. for *Prosenamelaena* Wlp. p. 344, TOWNSEND t.c.

Microsillus characters p. 2, *baccharis* ♂ p. 3, REINHARD Proc. U.S. Nat. Mus. 79 no. 2877.

Morphodexia gen. n. (Dexillini) p. 342, *microphthalmoides* sp. n. Chile p. 343, TOWNSEND Rev. Ent. S. Paulo 1.

Nemoraea pellucida puparium p. 350 figs., GIL COLLADO Eos 7.

Neobrachelia gen. n. (Aphriini) p. 458,
charapemyioides sp. n. Peru p. 459,
TOWNSEND Rev. Ent. S. Paulo 1.

Neoduvaucelia gen. n. (Cylindromyini),
aenescens sp. n. Selangor p. 319,
MALLOCH Ann. Mag. N.H. (10) 7.

Neoeuantha gen. n. for *Dexia aucta*
Wied. p. 336, TOWNSEND Rev. Ent. S.
Paulo 1.

Neophasia see *Euphasia*.

Neotrafoia see *Trafoia*.

Neotrafoiopsis gen. n. (Linnaemyini)
p. 451, *andina* sp. n. Peru p. 452, TOWN-
SEND Rev. Ent. S. Paulo 1.

Neowinthemia see *Winthemia*.

Ocypteryx gen. n. (Phasiidae) p. 326,
ochrescens sp. n. Paraguay, Brazil p. 327,
TOWNSEND Rev. Ent. S. Paulo 1.

Oestrophasiana gen. n. for *Dictya*
uncana F. p. 320, TOWNSEND t.c.

Okea see *Winthemia*.

Opsocyptera see *Cylindromyia*.

Opticopteryx gen. n. (Ernestiini) p.
455, *alpina* sp. n. Bolivia p. 456, TOWN-
SEND Rev. Ent. S. Paulo 1.

Oswaldia muscaria Fall. (= *Cero-
masia sordidisquama* Zett.) p. 35,
VILLENEUVE Bull. Ann. Soc. ent. Belg.
71.

Oxapampoepalpus gen. n. (Juriniini),
auroanalis sp. n. Peru p. 441, TOWNSEND
Rev. Ent. S. Paulo 1.

Pales pavidia Mg. (= *Gaedia ignavus*
Nish., *puellae* Nish.) in pp. 254-260,
TAKANO Insect Wld. 35.

Palpocyptera annuliventris p. 323,
exquisita p. 325, spp. n. F.M.S., MAL-
LOCH Ann. Mag. N.H. (10) 7.

Palpostoma armiceps p. 296, *sub-
sessilis* p. 297, spp. n. Australia, MAL-
LOCH Proc. Linn. Soc. N.S.W. 56.

Parafabricia perplexa n. n. for
Tachina bicolor B. B. nec Wulp p. 354,
TOWNSEND Rev. Ent. S. Paulo 1.

Paralophosia imbuta see *Duvaucelia*.

Paraphania see *Hermysia*.

Parechinotachina gen. n. for *Dejeania*
plumitarsis Wulp p. 353, TOWNSEND
Rev. Ent. S. Paulo 1.

Peleteria iterans Wlk. (= *punctifera*
Wlk.) p. 14, ALDRICH Proc. U.S. Nat.
Mus. 80 no. 2910.

Pelmatomyia phalaenaria Rond. iden-
tity discussed p. 35, VILLENEUVE Bull.
Ann. Soc. ent. Belg. 71.

Penthosia satanica see *Hermysia*.

Peracroglossa gen. n. (Salmaciini)
p. 468, *peruviana* sp. n. Peru p. 469,
TOWNSEND Rev. Ent. S. Paulo 1.

Perilophosia ocypterina Vill. (= *Xenolophosia diversipes* Vill.) p. 391,
TOWNSEND Ann. Mag. N.H. (10) 8.

Peteina stylata see *Rhynchopeteina*.

Phasmofrontina gen. n. (Frontinini),
perarida sp. n. Peru p. 473, TOWNSEND
Rev. Ent. S. Paulo 1.

Philippopolophosia see *Duvaucelia*.

Phorostoma appendiculata see *Bathy-
dextra wulpii*.

Phyllaristomyia gen. n. (Belvosini)
p. 466, *fiebrigi* sp. n. Paraguay p. 467,
TOWNSEND Rev. Ent. S. Paulo 1.

Pirionimyia gen. n. (Calirrhoini) p.
343, *paradoxa* sp. n. Chile p. 344,
TOWNSEND t.c.

Plaxactia gen. n. (Actiini) p. 476,
facialis sp. n. Br. Honduras p. 477,
TOWNSEND t.c.

Proarchytas gen. n. for *Tachina*
daemon Wied. p. 351, TOWNSEND t.c.

Proepalpus paulensis see *Jurinia*
gagatea.

Promegaparia gen. n. (Dexillini) p.
339, *petiolata* sp. n. Peru p. 340, TOWN-
SEND Rev. Ent. S. Paulo 1.

Prosenia melaena see *Microchaetogyne*.

Prosopaea deserticola sp. n. Turkmenia
p. 87 figs., ROHDENDORF Plant Prot. 8.

Prospanipalpus gen. n. (Cuphocera-
tini) p. 448, *peruvianus* sp. n. Peru p.
449, TOWNSEND Rev. Ent. S. Paulo 1.

Pseudeuantha Towns. (= *Anaporia*
Towns.), *pristis* Wlk. (= *limacodis*
Towns.) p. 6, ALDRICH Proc. U.S. Nat.
Mus. 80 no. 2910.

Pseudobombyliomyia gen. n. (Macro-
myini) p. 347, *linellii* sp. n. Venezuela
p. 348, TOWNSEND Rev. Ent. S. Paulo
1.

Pseudorectocera see *Hermysia*.

Pseudoxanthozona gen. n. (Juriniini),
denudata sp. n. Venezuela p. 442, TOWN-
SEND Rev. Ent. S. Paulo 1.

Pseudoxanthozonella gen. n. (Juriniini), *similis* sp. n. Ecuador p. 437, TOWNSEND t.c.

Ptilodegeeria lindigi n. n. for *Hypostena obumbrata* B.B. nec Wulp p. 465, TOWNSEND t.c.

Pyrrhodexia gen. n. for *Dexia pyrrhoprocta* Wied. p. 341, TOWNSEND t.c.

Pyrrhoernestia gen. n. (Linnaemyini), *petiolata* sp. n. Bolivia p. 450, TOWNSEND t.c.

Pyrrhotachina gen. n. (Cuphoceratini) p. 447, *proboscidea* sp. n. Argentina p. 448, TOWNSEND t.c.

Rhachosaundersia gen. n. (Juriniini) p. 439, *boliviana* sp. n. Bolivia p. 440, TOWNSEND t.c.

Rhampopteryx gen. n. (Ernestiini) p. 456, *retrorsa* sp. n. Peru p. 457, TOWNSEND t.c.

Rhynchopeteina gen. n. for *Peteina stylata* B.B. p. 459, TOWNSEND t.c.

Saundersia rufa see *Homosaundersia*; *decorata* see *Echinopyrrhosiops*.

Schineria cinerea sp. n. Kiev p. 34 fig., BELANOVSKIĖ Trav. Mus. zool. Kiev no. 10.

Schizotachina longicornis Coq. (= *convecta* Wlk., *usitata* Coq. ♀) p. 5, ALDRICH Proc. U.S. Nat. Mus. 80 no. 2910.

Servillia (*Smirnovioli* subgen. n.) *persica* discussed and ♂ p. 173 figs., ZIMIN Bull. Inst. Contr. Pests Dis. 1.

Setulia ornatipes see *Sphixapata penicillaris*.

Signoepalpus gen. n. (Juriniini), *spinus* sp. n. Peru p. 446, TOWNSEND Rev. Ent. S. Paulo 1.

Siphosturmia characters p. 5, *confusa* sp. n. Texas p. 6, REINHARD Proc. U.S. Nat. Mus. 79 no. 2877.

Siphosturmiopsis characters p. 8, key, *melampyga* sp. n. Texas p. 9; *phyciodis* further description p. 11, REINHARD t.c.

Smirnovioli subgen. n. see *Servillia*.

Sophia desvoidyi Brazil, *nigra* Panama, spp. n. p. 338, TOWNSEND Rev. Ent. S. Paulo 1.

Spathimeigenia revision of N. American 10 pp., key p. 3, *mexicana* p. 5, *obscura* p. 6 Mexico, *erecta* Michigan p.

8, *bridwelli* Kansas, *texasensis* Texas p. 9, spp. n., ALDRICH Proc. U.S. Nat. Mus. 80 no. 2911.

Sphixapata penicillaris Rond. (= *Setulia ornatipes* Villen.) p. 35, VILLENEUVE Bull. Ann. Soc. ent. Belg. 71.

Stevenia steini sp. n. Spalato p. 65, VILLENEUVE Konowia 10.

Stomatotachina gen. n. (Phoriniini), *splendida* sp. n. Chile p. 464, TOWNSEND Rev. Ent. S. Paulo 1.

Sturmia dilabida Villen. (= *Formosodoria foeda* Towns.) p. 38, VILLENEUVE Bull. Ann. Soc. ent. Belg. 71.

Tachina hybreas p. 13, *candens* p. 15 further descriptions, ALDRICH Proc. U.S. Nat. Mus. 80 no. 2910.—*T. cinerascens* sp. n. Ukraine, Caucasus p. 160, BELANOVSKIĖ in ZVEROZOMB-ZUBOVSKIĖ Meadow Moth in 1929–30 1931.—*T. obconica* see *Anetia*; *T. reinwardtii* Wied. see *Chlorohystricia*, *reinwardtii* B.B. see *Chrysotachina braueri*; *T. distincta* see *Doriella*; *T. amisias* see *Xanthohystricia*; *daemon* see *Proarchytas*; *bicolor* see *Parafabricia perplexa*.

Tachinomyia panaetius Wlk. (= *pansa* Wlk., *violenta* Wlk., *irrequieta* Wlk., *robusta* Towns.) pp. 12, 13, ALDRICH Proc. U.S. Nat. Mus. 80 no. 2910.

Tachinophasia gen. n. (Phasiinae) p. 323, *transita* sp. n. Brazil p. 324, TOWNSEND Rev. Ent. S. Paulo 1.

Tamiclea globula Mg. (= *Xysta testaceicornis* Ros.) p. 35, VILLENEUVE Bull. Ann. Soc. ent. Belg. 71.

Tipuloleskia gen. n. (Leskiini) p. 331, *mima* sp. n. Brazil p. 332, TOWNSEND Rev. Ent. S. Paulo 1.

Trafoia B.B. (= *Neotrafoia* Towns.) p. 452, TOWNSEND t.c.

Tricholyga africana sp. n. Sudan p. 347, ROHDENDORF Ann. Mag. N.H. (10) 8.

Trisisyropha see *Winthemia*.

Tritochaeta see *Clemeles*.

Tromodesiana gen. n. for *Dexia thomae* Wied. p. 339, TOWNSEND Rev. Ent. S. Paulo 1.

Uclesia retracta see *Atractouclesia*; *varicornis* see *Uclesiopsis*.

Uclesiopsis gen. n. for *Uclesia vari-cornis* Curr. p. 461, TOWNSEND Rev. Ent. S. Paulo 1.

Voria ruralis Fall. (= *brasiliensis* Towns.) p. 38, VILLENEUVE Bull. Ann. Soc. ent. Belg. 71.

Voriella type *uniseta* Mall. p. 298, MALLOCH Proc. Linn. Soc. N.S.W. 56.

Wagneria carbonaria Panz. (= *helymus* Wlk.) p. 14, ALDRICH Proc. U.S. Nat. Mus. 80 no. 2910.—*W. clesides* see *Eutrichogena*.

Weberia pseudofunesta n. n. for *curvicauda* auct. nec Fall. p. 70, VILLENEUVE Konowia 10.

Willistonina aldrichi n. n. for *esuriens* Aldr. nec F. nec Wied. Brazil p. 468, TOWNSEND Rev. Ent. S. Paulo 1.

Winthemia R.-D. revision of American spp. 54 pp., key p. 5, (= *Trisisyropa* Towns., *Okea* Towns., *Neowinthemia* Towns., *Hemimasipoda* Towns.) p. 2, *pinguis* F. (= *brasiliensis* Towns.) p. 49; *tibialis* p. 11, *duplicata* p. 17, *texana* p. 19, *polita* p. 21, *sinuata* p. 25, *cecropiae* p. 34, *montana* p. 36, *imitator* p. 39 U.S.A., *occidentis* p. 22, *borealis* p. 27, *intonsa* p. 28 Canada, *mima* Centr. and S. America p. 37, *singularis* Argentina p. 38, *intermedia* America p. 41, *bicolor* Brazil p. 46, *signata* Peru p. 51 spp. n. figs., REINHARD Proc. U.S. Nat. Mus. 79 no. 2886.—*W. quadripustulata* var. n. *pruinosa* Spain p. 352, GIL COLLADO Eos 7.

Xanthoepalpodes gen. n. (Juriniini) p. 437, *bischofi* sp. n. Bolivia p. 438, TOWNSEND Rev. Ent. S. Paulo 1.

Xanthohystericia gen. n. for *Tachina amisias* Wlk. p. 348, TOWNSEND t.c.

Xanthotheresia gen. n. (Theresiini) p. 345, *bicolor* sp. n. Colombia p. 346, TOWNSEND t.c.

Xenolophosia hamulata Vill. (= *Formosolophosia hemydoides* Towns.) p. 391, TOWNSEND Ann. Mag. N.H. (10) 8.—*X. hamulata* see *Duvaucelia bicincta*; *X. diversipes* see *Perilophosia ocypterina*.

Xysta testaceicornis see *Tamiclea globula*.

Zenillia affinis Fall. (= *coerulea* Aldr. & Web.) p. 10, ALDRICH Proc. U.S. Nat. Mus. 80 no. 2910.

CALLIPHORIDAE (including SARCOPHAGIDAE).

Sarcophagidae from the Bolivian Chaco, ENGEL Konowia 10 pp. 140–153.

Observations on the biology of some Sarcophaginae, GRAENICHER Ent. News 42 pp. 227–230.

Study of the sheep blow-flies of S. Africa, SMT Rep. Vet. Res. S. Afr. 17 pp. 299–421, 9 pls. etc.

Adichosia hyalipennis see *Calliphora*.

Adiscochaeta enderleini sp. n. Bolivia p. 145, ENGEL Konowia 10.

Afrowohlfahrtia pachytyli Towns. (= *Wohlfahrtia curtata* Vill.) p. 377, TOWNSEND Ann. Mag. N.H. (10) 8.

Aldrichiella gen. n. for *Calliphora grahami* Aldr. p. 177, ROHDENDORF Zool. Anz., Leipzig 95.

Amobia R.-D. (= *Pachyophthalmus* B.B.) p. 379, TOWNSEND Ann. Mag. N.H. (10) 8.

Amphibolosia see *Neocalliphora*.

Anastellorhina (= *Proekon* Surc., type *lateralis* Macq.), *augur* L. (= *lateralis* Macq., *bicolor* Big.) p. 376, TOWNSEND Ann. Mag. N.H. (10) 8.

Anisomyia lateralis Macq. (= *Homodexia obscuripennis* Big.) p. 371, TOWNSEND t.c.

Bellardia obsoleta Mg. (= *vernalis* R.-D.) p. 375, TOWNSEND t.c.

Bercaea ampullula, subaurata spp. n. N. Argentina p. 142 figs., ENGEL Konowia 10.

Blaesoxipha arenicola ♀ p. 77, BARANOFF Ent. NachrBl. 5.—*B. grylloctona* p. 193, *filipjevi* p. 197, *lineata* p. 199 morphology, biology figs., RUKAVISHNIKOV Bull. Plant Prot. Ent. 1 1930.—*B. formosana* sp. n. Formosa. p. 110 fig., BARANOFF Konowia 10.

Blaesoxiphella Vill. (= *Santschia* Towns.), *brevicornis* Vill. (= *algieriensis* Towns.) p. 378, TOWNSEND Ann. Mag. N.H. (10) 8.

Calliphora uralensis characters distinguishing from *erythrocephala* p. 79, COLLIN Ann. Mag. N.H. (10) 7.—*C. ochracea* status, life-history, early stages pp. 172–181; *nigrithorax* Mall. (= *hyalipennis* Macq. 1850 nec 1834) p. 173 figs., FULLER Proc. Linn. Soc.

15
N.S.W. 66.—*C. pattoni* sp. n. India p. 615 figs., AUBERTIN Ann. Mag. N.H. (10) 8.—*C. vomitoria* reaction to sugars pp. 1-55 figs., MINNICH Z. vergl. Physiol. 11 1929; pp. 121-139 figs., MINNICH J. Exp. Zool. 60.—*C. sarcophagoides* sp. n. F.M.S. p. 192; *semifulva* notes p. 193; *hyalipennis* Macq. from *Adichosia* p. 194, MALLOCH Ann. Mag. N.H. (10) 7.—*C. grahami* see *Aldrichiella*.

Calliphoropsis see *Paramenia*.

Chlororhinia see *Stomorhina*.

Chrysostomomyia gen. n. for *Sarcophaga chrysostoma* Wied. p. 315, TOWNSEND Rev. Ent. S. Paulo 1.

Comasarcophaga gen. n., *texana* sp. n. Texas p. 280 fig., HALL Ent. News 42.

Conogaster petiolata sp. n. Sokotra I. p. 144, VILLENEUVE Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Cosmina punctulata Wied. (= *fuscipennis*, R.-D.) p. 372, TOWNSEND Ann. Mag. N.H. (10) 8.

Cryptosarcophila gen. n. (*Sarcophagini*) p. 314, *chaetosa* sp. n. Argentina p. 315, TOWNSEND Rev. Ent. S. Paulo 1.

Ctenoprosballia enderleini n. n. for *Sarcophaga afficta* End. nec Wulp p. 76, TOWNSEND t.c.

Dasysceloctis see *Poecilometopa*.

Dexopollenia a *Calliphorine* not *Rhiniine* p. 198, *bicoloripes* sp. n. Selangor p. 199, MALLOCH Ann. Mag. N.H. (10) 7.—*D. flava* Aldr. from *Lispoparea* p. 374, TOWNSEND Ann. Mag. N.H. (10) 8.

Dienchaeta enderleini n. n. for *Sarcophaga turbata* End. nec Wulp p. 76, TOWNSEND Rev. Ent. S. Paulo 1.

Eucalliphora lilaea Wlk. type, (= *latifrons* Hough, *ilderda* Wlk.) p. 616, AUBERTIN Ann. Mag. N.H. (10) 8.

Euidiella cyanea Stein (= *unicolor* Towns.) p. 373, TOWNSEND Ann. Mag. N.H. (10) 8.

Eurhynchomyia thoracica sp. n. Natal p. 21, CURRAN Amer. Mus. Nov. no. 506.

Goniogramma gen. n. (*Miltogrammini*) p. 316, *herbsti* sp. n. Chile p. 317, TOWNSEND Rev. Ent. S. Paulo 1.

Goniophthalmus gen. n., *simonyi* sp. n. Sokotra I. p. 145 figs., VILLENEUVE Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Hartigia R.-D. (= *Heteronychia* B.B., *Kramerella* End.) p. 378, TOWNSEND Ann. Mag. N.H. (10) 8.

Hemigymnochaeta clara S. Rhodesia p. 11, *apicifera*, *liberia* p. 12, *mitis* p. 13, *bequaerti* p. 14 *Liberia* spp. n., CURRAN Amer. Mus. Nov. no. 506.

Hemipyrellia revision, much synonymy pp. 497-509, characters, key p. 499; *cyanea* F. (= *Lucilia taeniops* Big. ♀) p. 501; *fernandica* Macq. (= *taeniops* Big. ♂) p. 500; *rhodocera* genitalia figured p. 507 figs., AUBERTIN Proc. Zool. Soc. Lond. 1931.

Heteronychia see *Hartigia*.

Homodexia obscuripennis see *Anisomyia lateralis*.

Hoplocephalella signata see *Lamprometopia caffra*.

Kramerella see *Hartigia*.

Lamprometopia caffra Macq. (= *Hoplocephalella signata* Vill.) p. 380, TOWNSEND Ann. Mag. N.H. (10) 8.

Lispoparea Aldr. status discussed p. 200, MALLOCH Ann. Mag. N.H. (10) 7.—*L. flava* see *Dexopollenia*.

Lucilia sericata structure and function of digestive tract of larva pp. 109-123 figs., HOBSON J. Exp. Biol. 8; inheritance of diapause p. 204, ROUBAUD C.R. Acad. Sci. Fr. 193.—*L. taeniops* ♀ see *Hemipyrellia cyanea*, ♂ see *H. fernandica*.

Miltogramma biseta see *Panama-phyto*.

Myorhina R.-D. (= *Tetradiscalis* End.) *campestris* R.-D. (= *parvicauda* End.) p. 379, TOWNSEND Ann. Mag. N.H. (10) 8.

Neocalliphora B.B. (= *Amphibolosia* Sure.) p. 376, TOWNSEND t.c.

Neophytodes gen. n. (*Macronichiini*) p. 317, *lindneri* sp. n. Argentina p. 318, TOWNSEND Rev. Ent. S. Paulo 1.

Obscuria incerta sp. n. Congo p. 4, CURRAN Amer. Mus. Nov. no. 506.

Pachyophthalmus aurifacies sp. n. Venezuela p. 782 figs., SÉGUÉY Z. Parasitenkunde, Berlin 3.—See *Amobia*.

Panamaphyto gen. n. for *Miltogramma biseta* Thom. p. 314, TOWNSEND Rev. Ent. S. Paulo 1.

Paradichosia validity discussed p. 194, key, *scutellata* further description p. 195, *flavibasis* p. 196, *dubia* p. 197 Java, *abdominalis* F.M.S. p. 198, spp. n., MALLOCH Ann. Mag. N.H. (10) 7.

Paramenia (= *Calliphoropsis* Towns.) p. 375, TOWNSEND Ann. Mag. N.H. (10) 8.

Pararhynchomyia gen. n. p. 142, *cribriformis* sp. n. Sokotra I. p. 143, BECKER Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Patricyclea muscoidea Uganda p. 5, *metallica* S. Rhodesia p. 6 spp. n., CURRAN Amer. Mus. Nov. no. 506.

Pericallimya bequaerti sp. n. Uganda p. 4, CURRAN t.c.

Phormia groenlandica Zett. not a synonym of *coerulea* Desv.; *atriceps* new to Greenland p. 78, COLLIN Ann. Mag. N.H. (10) 7.

Poecilometopa Vill. (= *Sceloctis* End., *Dasysceloctis* End.) p. 377, TOWNSEND Ann. Mag. N.H. (10) 8.

Pollenia rudis f. n. *luciensis* France p. 9*, MERCIER Bull. Soc. linn. Normandie, Caen (8) 3.

Proekon see *Anastellorhina*.

Rhinia atra sp. n. Liberia p. 15, CURRAN Amer. Mus. Nov. no. 506.

Rhynchomyia ruficeps F. (= *felina* R.-D.) p. 372, TOWNSEND Ann. Mag. N.H. (10) 8.—*R. nigeria* Nigeria p. 19, *pollinosa* Transvaal p. 20 spp. n., CURRAN Amer. Mus. Nov. no. 506.—*R. varifrons* sp. n. Sokotra I. p. 141, BECKER Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Santschia see *Blaesoxiphella*.

Sarcophaga fasciculata p. 145, *cincta*, *trifolia* p. 146, *pedestris* p. 147, spp. n. S. Arabia and Sokotra I. figs., VILLENEUVE Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.—*S. franchettii* sp. n. Dancalia p. 12 fig., SÉGUY Ann. Mus. Genova 55.—*S. globicauda* Sudan p. 349, *furcadorsalis* Sierra Leone p. 350, spp. n. figs., ROHDENDORF Ann. Mag. N.H. (10) 8.—*S. basiseta* p. 111, *proballina* p. 112, *kankauensis* p. 113 Formosa, *martellatoides*, *kempioides* Ceylon p. 114, spp. n. figs., BARANOFF Konowia 10.—*S. nox* sp. n. S. Carolina p. 217 fig., HALL Ent. News 42.—*S. laakei* p. 181, *coachellensis* p. 182, spp. n. U.S.A. fig., HALL Ann. Ent. Soc. Amer. 24.—

S. semimarginalis p. 283, *pedunculata* p. 284, *scelista* p. 285, spp. n. Texas figs., HALL Ent. News 42.—*S. ventricosa* var. n. *meridionalis* N. Argentina p. 146; *townsendi* p. 149, *sancti-josephi* p. 150, *halli* p. 151, *cassidifera* p. 152 Bolivia, spp. n. figs., ENGEL Konowia 10.—*S. chrysostoma* see *Chrysostomomyia*; *afficta* see *Ctenoprosballia enderleini*; *turbata* see *Dienchaeta enderleini*.

Sarcophila intermedia see *Wohlfahrtia*; *balassogloi* see *W. trina*.

Sceloctis see *Poecilometopa*.

Stomorkhina Rond. (= *Chlororhinia* Towns.) p. 15, *chapini* Congo p. 16, *apta* Kenya p. 17, *mitis* Natal p. 18, spp. n., CURRAN Amer. Mus. Nov. no. 506.

Strongyloneura cupreithorax Transvaal p. 1, *varians* Victoria Falls p. 2, *congensis* Congo p. 3, spp. n., CURRAN t.c.—*S. flavifacies* sp. n. Bolivia p. 138, ENGEL Konowia 10.

Tainanina grisella characters p. 191, MALLOCH Ann. Mag. N.H. (10) 7.

Tetradiscalis see *Myorhina*.

Thyrsocnema transita n. n. for *striata* End. nec F. p. 378, TOWNSEND Ann. Mag. N.H. (10) 8.

Triceratopyga gen. n., *calliphoroides* sp. n. E. Siberia p. 175 fig., ROHDENDORF Zool. Anz., Leipzig 95.

Tricyclea kasatana p. 6, *major* p. 7, *du*, *liberia* p. 8, *confusa* p. 9, *similis* p. 10 spp. n. Liberia, CURRAN Amer. Mus. Nov. no. 506.

Wohlfahrtia erythrocerata sp. n. Sokotra I. p. 147 fig., VILLENEUVE Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.—*W. intermedia* Portsch. from *Sarcophila*; *trina* Wied. (= *S. balassogloi* Portsch.) p. 36, VILLENEUVE Bull. Ann. Soc. ent. Belg. 71.—*W. curta* see *Afro-wohlfahrtia pachytyli*.

MUSCIDAE (s. str.), ANTHOMYIIDAE.

Muscidae and Anthomyiidae from the Bolivian Chaco, ENGEL Konowia 10 pp. 133-140.

Anthomyiids sucking insect juices, HOBBY Proc. Ent. Soc. Lond. 6 p. 16.

Anthomyiidae of south-western U.S.A., MALLOCH Trans. Amer. Ent. Soc. 44 1918 pp. 263-319, 1 pl.

Key to genera of Stomoxydini,
TOWNSEND Rev. Ent. S. Paulo 1 p. 480.

Annotated list of Anthomyiids of
Rumania, SUSTER Ann. sci. Univ.
Jassy 16 pp. 601-610.

Acridomyia sacharovi morphology
biology pp. 205-225 figs., RUKAVISHNI-
KOV Bull. Plant Prot., Ent. 1 1930.

Allognotha semivitta sp. n. U.S.A. p.
282, MALLOCH Trans. Amer. Ent. Soc.
44 1918.

Anthomyia procellaris, pluvialis mor-
phology, biology pp. 150-159 figs.,
KEILIN Parasitology 16 1924.

Aricia latifrontata p. 270, *poecilop-
ter*a p. 271, spp. n. U.S.A., MALLOCH
Trans. Amer. Ent. Soc. 44 1918.

Atherigona immaculata sp. n. Sokotra
I. p. 150, STEIN Denkschr. Akad. Wiss.
Wien 71 no. 2 (1907) 1931.

Bdelolarynx flavicornis see *Neiva-
myia*.

Bucephalomyia gen. n. for *Tetra-
merinx femorata* Mall. p. 273, MALLOCH
Trans. Amer. Ent. Soc. 44 1918.

Caricea prominens sp. n. Sokotra I.
p. 152, STEIN Denkschr. Akad. Wiss.
Wien 71 no. 2 (1907) 1931.

Chortophila scope p. 87, COLLIN Ann.
Mag. N.H. (10) 7.

Coenosia tigrina list of prey pp. 13-15,
HOBBY Proc. Ent. Soc. Lond. 6.—*C.
fraterna* p. 282, *setigera* spp. n. U.S.A.;
basalis Stein from *Dexiopsis* p. 284,
MALLOCH Trans. Amer. Ent. Soc. 44
1918.

Crinura Schn. (= *Tricharia* Karl) p.
88, COLLIN Ann. Mag. N.H. (10) 7.

Curtoneura cyanea see *Trichomorellia
boliviana*.

Cyacyrtoneura n. n. for *Cyrtoneuropsis*
Towns. nec Mall., type *cyanea* sp. n. (nec
cyanea Macq.) Peru p. 479, TOWNSEND
Rev. Ent. S. Paulo 1.

Cyrtoneuropsis gen. n. for *Tricho-
morellia cyanea* Macq. p. 68, TOWNSEND
t.c.—See *Cyacyrtoneura*.

Dasymorellia see *Trichomorellia*.

Delia Desv. scope (= *Flavena* Karl)
p. 87, COLLIN Ann. Mag. N.H. (10) 7.

Dexiopsis basalis see *Coenosia*.

Egle hirta sp. n. U.S.A. p. 299,
MALLOCH Trans. Amer. Ent. Soc. 44
1918.

Emusca see *Eumusca*.

Eremomyia apicalis ♀ p. 303;
depressa sp. n. U.S.A. p. 304, MALLOCH
Trans. Amer. Ent. Soc. 44 1918.

Eumusca Towns. (= *Emusca* Mall.)
p. 369, TOWNSEND Ann. Mag. N.H. (10)
8.

Fannia trianguligera p. 292, *plebeia*
p. 293, *spathiophora* p. 294, spp. n.
U.S.A., MALLOCH Trans. Amer. Ent.
Soc. 44 1918.

Flavena see *Delia*.

Fucellia assimilis sp. n. U.S.A. p. 317,
MALLOCH Trans. Amer. Ent. Soc. 44
1918.

Glossina distribution Belgian Congo
pp. 186-200 map, SCHWETZ Rev. Zool.
Bot. afr. 20.—*G. morsitans* and evapo-
ration rate pp. 383-384 fig., NASH Bull.
Ent. Res. 22; ecology p. 16, PHILLIPS
J. Ecology 19.—*G. swynnertoni* feeding
habits pp. 175-181, JACKSON Bull. Ent.
Res. 22.

Gonarticoides argenticeps see *Myopina
reflexa*.

Haematobia P. & S. (= *Lyperosiops*
Towns.); type *stimulans* Mg. (= *irritans*
F. nec L.); *irritans* L. (= *cornicola*
Will.) p. 482, TOWNSEND Rev.
Ent. S. Paulo 1.—*H. irritans* length of
developmental stages pp. 330-331,
MELVIN & BECK J. Econ. Ent. 24.—
H. serrata see *Lyperosia*.

Haphospatha titillans Bez. from
Lyperosia p. 482, TOWNSEND Rev. Ent.
S. Paulo 1.

Hydrophoria subpellucida p. 296,
uniformis p. 297, spp. n. U.S.A., MAL-
LOCH Trans. Amer. Ent. Soc. 44 1918.

Hylemyia planipalpis brief description,
larva fig., KEIFER Mon. Bull. Calif.
Agric. Expt. Sta. 20.—*H. fracta* p. 305,
facialis p. 306, *duplicata* p. 308, *sub-
striatella*, *brevitarsis* p. 309, *neomexicana*
p. 310, *cilifera*, *marginella* p. 311,
spinilamellata p. 312, *piloseta*, *mimetica*
p. 313, *anthracina* p. 314, *angustiventris*
p. 315, *curvipes* p. 316, spp. n. U.S.A.,
MALLOCH Trans. Amer. Ent. Soc. 44
1918.

Leria septentrionalis status p. 90,
COLLIN Ann. Mag. N.H. (10) 7.

Limnophora orbitalis var. n. *lindrothi* Iceland p. 173, RINGDAHL Ent. Tidskr. 51: 1930.—*L. arctica* morphological characters p. 80 figs., COLLIN Ann. Mag. N.H. (10) 7.—*L. multipunctata* Stein (= *pellucida* Beck.) p. 150, BECKER Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.—*L. thienemanni* sp. n. Java p. 689, VILLENEUVE Arch. Hydrobiol. Suppl. 8.

Lispa consanguinea var. n. *fuscipes* Iceland p. 173, RINGDAHL Ent. Tidskr. 51 1930.—*L. ochracea* p. 150, *simonyi* p. 151, spp. n. Sokotra I., BECKER Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Lyperosia type *Haematobia serrata* R.D. p. 482, TOWNSEND Rev. Ent. S. Paulo 1.—*L. rufipalpis* sp. n. S. Arabia p. 148, BECKER Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.—*L. exigua* hypopygium p. 250 figs., PINTO Rev. med.-cirurg. Brasil 39.—*L. titillans* see *Haphospatha*.

Lyperosiops see *Haematobia*.

Morellia bispinosa sp. n. S. Rhodesia p. 444, MALLOCH Ann. Mag. N.H. (10) 8.

Musca domestica biology Palestine pp. 492-504, BODENHEIMER Z. angew. Ent. 18.—*M. scutellaris* see *Scutellomusca*.

Mydaea triseta sp. n. Brazil p. 13, CURRAN Amer. Mus. Nov. no. 492.—*M. pallidicornis* sp. n. Sokotra I. p. 149, STEIN Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Myopina reflexa Fall. (= *Gonarcicoides argenteiceps* Curr.) p. 185, MALLOCH Ann. Mag. N.H. (10) 7.

Neivamyia flavicornis Mall. (= *lutzi* Pinto & Fonseca) from *Bdellolarynx* p. 480, TOWNSEND Rev. Ent. S. Paulo 1.—*N. lutzi* hypopygium p. 252 figs., PINTO Rev. med.-cirurg. Brasil 39; further description p. 224 fig., BORGMEIER Rev. Ent. S. Paulo 1; discussed p. 19, PINTO Bol. biol. fasc. 17.

Nupedia dissecta discussed p. 88, COLLIN Ann. Mag. N.H. (10) 7.

Pegohylemyia Schn. (= *Thrixina* Karl) gnava Beh. type of gen. p. 87 (note), *sobrina* sp. n. Greenland p. 86, COLLIN t.c.

Pegomyia tenera var. n. *obscurior* Greenland p. 84 figs., COLLIN t.c.—*P. acutipennis* p. 301, *minuta* p. 302, spp.

n. U.S.A., MALLOCH Trans. Amer. Ent. Soc. 44 1918.—*P. cerastii* sp. n. Germany p. 546, HERING Z. PflKrankh. 41.—*P. hyoscyami* morphology, biology 110 pp. figs., BREMER & KAUFMANN Monog. Pflanzenschutz 7.—*P. bicolor* var. n. *cinereorufa* Iceland p. 173, RINGDAHL Ent. Tidskr. 51 1930.

Phaonia wahlbergi sp. n. Sweden p. 174, RINGDAHL t.c.—*P. arvernensis* Villen. a var. of *zugmayeriae* Schnabl p. 37, VILLENEUVE Bull. Ann. Soc. ent. Belg. 71.—*P. corbetti* p. 187, *glauca* p. 188, *simulans* p. 189, spp. n. Malaya, MALLOCH Ann. Mag. N.H. (10) 7.—*P. corbetti* life-cycle pp. 233-235 figs., SEWILL Malayan Agric. J. 19.—*P. pallidisquama* characters distinguishing from *consobrina* p. 79, COLLIN Ann. Mag. N.H. (10) 7.—*P. monticola* p. 266, *parviceps* p. 267, *nigricauda* p. 268, *fuscicauda* p. 269, spp. n. U.S.A., MALLOCH Trans. Amer. Ent. Soc. 44 1918.

Pogonomyia characters p. 276, key p. 277, *similis* p. 279, *minor* p. 280, *aldrichi*, *latifrons* p. 281, spp. n. U.S.A., MALLOCH t.c.

Pycnoglossa varipes Curr. status discussed p. 185, MALLOCH Ann. Mag. N.H. (10) 7.

Rypellia gen. n. (Muscinae), *flavipes* sp. n. Sumatra p. 190, MALLOCH t.c.

Schoenomyza key p. 286, *convexifrons* p. 287, *aurifrons* spp. n.; *dorsalis* varr. n. *sulfuriceps* p. 288, *partita* p. 289 U.S.A., MALLOCH Trans. Amer. Ent. Soc. 44 1918.

Scutellomusca gen. n. for *Musca scutellaris* F. p. 313, TOWNSEND Rev. Ent. S. Paulo 1.

Spilogaster fulvus see *Xenaricia*.

Spilogona raised to gen. rank, characters p. 377, key p. 378, *flaviventris* p. 379, *latimana*, *fumicosta* p. 380, *albifrons*, *argentifrons* p. 382, *aureifacies* p. 383, spp. n. New Zealand figs., MALLOCH Rec. Canterbury Mus. 3.

Stomoxys calcitrans, *indica* hypopygia p. 250 figs., PINTO Rev. med.-cirurg. Brasil 39.—*S. calcitrans* biology pp. 436-438, MELVIN Ann. Ent. Soc. Amer. 24.

Tetramerinx californiensis sp. n. U.S.A. p. 274, MALLOCH Trans. Amer. Ent. Soc. 44 1918.—*T. femorata* see *Bucephalomyia*.

Thrixina see *Pegohylemyia*.

Tricharia see *Crinura*.

Trichomorellia Stein (= *Dasymorellia* Mall.), *trichops* Mall. (= *cyanea* Stein nec Macq., *boliviana* Towns.) p. 479; *boliviana* n. n. for *Curtoneura cyanea* Stein nec Macq. p. 314, TOWNSEND Rev. Ent. S. Paulo 1.—*T. cyanea* see *Cyrtoneuropsis*.

Trichopticus maculiventris sp. n. U.S.A. p. 276, MALLOCH Trans. Amer. Ent. Soc. 44 1918.

Xenaricia gen. n. for *Spilogaster fulvus* Big. p. 272, MALLOCH t.c.

Muscidae Acalyptratae.

SCATOMYZIDAE (including

SCATOPHAGIDAE, CORDYLURIDAE).

Acicephala pilosella, alberta see *Pseudacicephala*; *intermedia* see *Paratidia*.

Amaurosoma atripes sp. n. Herschell I. p. 436, MALLOCH Ann. Mag. N.H. (10) 8.

Chaetosa distinguished from *Trichopalpus* p. 433, *churchilli* sp. n. Manitoba p. 434, MALLOCH t.c.

Cordylura masconina p. 11, *browni* p. 12, spp. n. Quebec figs., CURRAN Amer. Mus. Nov. no. 492.—*C. fulvibarba* see *Pogonota*.

Lasioscelus clavatus morphological notes, in New World p. 186, MALLOCH Ann. Mag. N.H. (10) 7.

Mesamyia gen. n. (Scatophaginae), *testacea* sp. n. Colorado p. 437, MALLOCH op. cit. (10) 8.

Okenina subgen. n. see *Pogonota*.

Opsiomyia distinguished from *Trichopalpus, palpalis* Coq. (= *nigribasis* Curr.) p. 433, MALLOCH Ann. Mag. N.H. (10) 8.

Paratidia gen. n. for *Acicephala intermedia* Curr. p. 432, MALLOCH t.c.

Pleurochaeta simplicipes Beck. (= *fulviseta* Beck.) p. 435, MALLOCH t.c.

Pogonota key to subgenn., *Okenina* subgen. n. (type *Cordylura fulvibarba* Lw.) p. 427, *pallida* sp. n. Canada p. 429 figs., MALLOCH t.c.

Pseudacicephala gen. n. for *Acicephala pilosella* Curr. (type) p. 431, *A. alberta* Curr.; *marginata* sp. n. Nevada p. 432, MALLOCH t.c.

Scatophaga subgenn. discussed p. 439, *furcata* Say (= *squalida* Mg.) p. 440; *pallida* Wlk. (= *nigrolimbata* Cress.) p. 441; *nigripes* Hlgr. (= *islandica* Beck.) p. 442; *tropicalis* n. n. for *lanata* Szil. nec Lundb.; *palpalis* sp. n. Alberta p. 443, MALLOCH t.c.—*S. squalida* Mg. (= *varipes* Hlmgr.) p. 89; *litorea* Fall. (= *nigripes* Hlmgr.) p. 90, COLLIN Ann. Mag. N.H. (10) 7.—*S. prey*, HOBBY Proc. Ent. Soc. Lond. 6 pp. 47-49, Trans. Ent. Soc. S. Engl. 7 pp. 35-39.

Trichopalpus distinguished from *Opsiomyia* p. 433, MALLOCH Ann. Mag. N.H. (10) 8.

PHYCOTROMIDAE.

Orygma luctuosa thoracic hairs p. 106 figs., MERCIER C.R. Acad. Sci. Fr. 192.

BORBORIDAE (SPHAEROCERIDAE).

Sphaeroceridae of Patagonia and S. Chile, COLLIN Dipt. Patag. & S. Chile 1931 pt. 6 pp. 62-84, 2 figs.

Keys to subfam. of Borboridae, HENDEL Verh. zool.-bot. Ges. Wien 81 p. 5.

Afroborborus gen. n., *tumidus* sp. n. Kamerun p. 9, CURRAN Amer. Mus. Nov. no. 492.

Archiborborus key to subgenn. p. 64. *Huapia* subgen. n., *microphthalma* sp. n. p. 65, *Procopromyza* subgen. n., key p. 67, *albicans* (type) p. 68, *chilensis, edwardsi* p. 71, *simplicimanus* spp. n. S. America; *hirtus* Big. p. 72, *quadri-notus* Big. p. 70 from *Ceroptera*; *maculipennis* further description p. 73, RICHARDS Dipt. Patag. & S. Chile 1931 pt. 6.

Borborus aptus sp. n. Kamerun p. 8, CURRAN Amer. Mus. Nov. no. 492.

Ceroptera hirta, quadrinota see *Archiborborus*.

Collinella striata, multisetosa, aequipilosa, divergens, plurisetata see *Leptocera*.

Coprophila vagans, hirtula see *Leptocera*.

Cypselia discussed p. 9, HENDEL Verh. zool.-bot. Ges. Wien 81.

Cypselosominae subfam. n. p. 5, HENDEL t.c.

Homalomitra gen. n., *ecitonis* sp. n. Brazil p. 32 figs., BORGMEIER Rev. Ent. S. Paulo 1.

Huapia subgen. n. see *Archiborborus*.

Leptocera head bristles discussed p. 6, HENDEL Verh. zool.-bot. Ges. Wien 81.—*L. neocurvinervis* p. 74, *ensenada* p. 76, *ancudensis* p. 78, *darwini* p. 80, *mendozaana* p. 82, *decimsetosa* p. 83 spp. n. S. America; *striata* Duda p. 75, *multisetosa* Duda p. 83, *aequipilosa* Duda, *divergens* Duda, *plurisetosa* Duda from *Collinella*; *Thoracochaeta* key p. 77; *johsoni* Spul. further description p. 78; *pulchripes* var. n. *griseithorax* Buenos Aires p. 79; *vagans* Hal., *hirtula* Rond. from *Coprophila* p. 82; *chilenica* Duda p. 81, *mediospinosa* Duda p. 84 from *Scotophilella*, RICHARDS Dipt. Patag. & S. Chile 1931 pt. 6.

Neoborborus gen. n. p. 189, *speculabundus* sp. n. Australia, Victoria p. 191 figs., RAYMENT Vict. Nat. 47.

Nerea synonymy discussed p. 7, HENDEL Verh. zool.-bot. Ges. Wien 81.

Procopromyza subgen. n. see *Archiborborus*.

Scotophilella chilenica, *mediospinosa* see *Leptocera*.

HETERONEURIDAE (CLUSIIDAE).

Stomphastica status discussed p. 15, HENDEL Verh. zool.-bot. Ges. Wien 81.

HELOMYZIDAE.

Acantholeria nigra no locality p. 19, *pectinulata* Amur p. 20, spp. n., CZERNY Konowia 10.

Cairnsimyia gen. n., *cavifrons* sp. n. Queensland p. 294 figs., MALLOCH Proc. Linn. Soc. N.S.W. 56.

Diastata key p. 29, *polita*, *albibasis* U.S.A. p. 30, *peruviana* Peru p. 31, spp. n., MALLOCH Proc. U.S. Nat. Mus. 78 no. 2858.

Suillia marginata sp. n. Japan p. 21, CZERNY Konowia 10.

SCIOMYZIDAE (DROMYZIDAE, NEOTTIOPHILIDAE).

Revision of Neottiophilidae of Palaearctic Region (contd.), CZERNY in LINDNER Flieg. Pal. Reg. 38b pp. 11-15, 14 figs.

Actoceles asymmetrica sp. n. Macquarie I. p. 259 figs., ENDERLEIN SitzBer. Ges. naturf. Fr. Berl. 1930.

Neottiophilum praestum morphology, life-history pp. 113-126 figs., KEILIN Parasitology 16 1924.

SAPROMYZIDAE (including LAUXANIIDAE).

Caeniopsis maculipennis sp. n. Ceylon p. 26 figs., CZERNY Konowia 10.

Homoneura loewi sp. n. S. Nigeria p. 445; *sexvittata* CURR. from *Sapromyza*; *guttulata* Macq. discussed p. 446, MALLOCH Ann. Mag. N.H. (10) 8.—*H. sarangana* p. 5, *abana* p. 6, spp. n. Java figs., CURRAN Amer. Mus. Nov. no. 474.

Pseudogriphoneura vittifacies sp. n. Porto Rico p. 20, CURRAN op. cit. no. 456.

Sapromyza sexvittatus see *Homoneura*.

LONGCHAEIDAE.

Lonchaea characters p. 338, *bruneri* sp. n. Cuba p. 339, MALLOCH Ann. Mag. N.H. (10) 7.

ORTALIDAE (PLATYSTOMIDAE, PYRGOTIDAE).

Bakeromyia subgen. n. see *Plagiostenopterina*.

Carolimyia subgen. n. see *Plagiostenopterina*.

Elassogaster hyalipennis sp. n. Philippines p. 23, MALLOCH Proc. U.S. Nat. Mus. 78 no. 2858.

Epiplatea amabilis see *Setellia*.

Euprosopia key p. 2, *semiarmata* p. 3, *metallica* p. 6 Philippines, *omei*, *grahami* China p. 4 spp. n.; *sexpunctata* O.S. from *Notospila* p. 8 figs., MALLOCH t.c.

Eurycephalomyia myopaeformis Roed. (= *Tetanops polita* Coq., *aldrichi* Hend.), in Ortalinae not Ulidiinae p. 120, ALDRICH Proc. Ent. Soc. Wash. 33.

Euxesta mitis sp. n. Porto Rico p. 17 fig., CURRAN Amer. Mus. Nov. no. 456.

Herina thienemanni sp. n. Java p. 2 fig., CURRAN op. cit. no. 474.

Lamprogaster fulvescens sp. n. Philippines p. 11, MALLOCH Proc. U.S. Nat. Mus. 78 no. 2858.

Mindanaia gen. n., *latifasciata* sp. n. Philippines p. 25 fig., MALLOCH t.c.

Neoeuxesta Mall. status discussed p. 4, HENDEL Verh. zool.-bot. Ges. Wien 81.

Notospila sexpunctata see *Euprosopia*.

Plagiostenopterina key to subgen., spp. p. 13, *parva* New Guinea, *dubiosa* p. 15, (*Stenopterella* subgen. n. p. 16), *trivittigera* p. 17 Straits Settlements, (*Carolimyia* subgen. n.) *diptera* p. 18, (*Bakeromyia* subgen. n. p. 19) *armata* p. 20, *inermis*, *discolor* p. 21 Philippines, spp. n. figs., MALLOCH Proc. U.S. Nat. Mus. 78 no. 2858.

Pseudepicausta completa, *attenuata* spp. n. Australia p. 27, MALLOCH t.c.

Pseudeuxesta prima O.S. (= semi-fasciata Mall.) p. 4, HENDEL Verh. zool.-bot. Ges. Wien 81.

Pseudotephritina subgen. n. see *Pseudotephritis*.

Pseudotephritis key p. 2, (*Pseudotephritina* subgen. n.) *inaequalis* sp. n. Colorado p. 4, MALLOCH Proc. U.S. Nat. Mus. 79 no. 2900.

Rivellia marginalis sp. n. Egypt p. 59 fig., HENDEL Bull. Soc. ent. Egypte 1931.

Setellia amabilis Will. from *Epiplatea* p. 17, CURRAN Amer. Mus. Nov. no. 456.

Stenopterella subgen. n. see *Plagiostenopterina*.

Tetanops polita, *aldrichi* see *Eurycephalomomyia myopaeformis*.

Ulidia fascialis sp. n. Egypt p. 60, HENDEL Bull. Soc. ent. Egypte 1931.

TRYPETIDAE.

Bionomic notes on the economic spp. of fruit-flies in New York, GAMBRELL J. Econ. Ent. 24 pp. 226-232, 1 pl. 2 figs.

Supplement to Trypetidae of Palaearctic Region, HENDEL Bull. Soc. ent. Egypte 1931 p. 1.

Some gall-forming Trypetidae, NIBLETT Lond. Naturalist 1930 pp. 139-141.

List of E. Prussian Trypetidae, SPEISER Schr. phys.-oekon. Ges. Königsberg 67 1930 no. 1 pp. 95-99.

Ceratitis (*Trirhithromyia* subgen. n.) p. 2, *efflatouni* sp. n. Egypt p. 3, HENDEL Bull. Soc. ent. Egypte 1931.

Chaetodacus jarvisi Try. (= *australis* Hend.) p. 12, HENDEL Verh. zool.-bot. Ges. Wien 81.—*C. cucurbitae* action of low temperatures on larvae and pupae sep. pp. 68, KOIDZUMI Bull. Dept. Agric. Govt. Inst. Res. Taihoku no. 85.

Cyanodesmops gen. n., *ornithomorpha* sp. n. S. Africa p. 125 fig., MUNRO Bull. Ent. Res. 22.

Ensina dubia, *magnipalpis* discussed p. 120; *polana* sp. n. Portuguese E. Africa p. 121 figs., MUNRO t.c.

Hamouchaeta see *Neanomoea*.

Hypenidium Lw. (= *Stephanaciura* Ség.) *novaki* Str. (= *bipartita* Ség.) p. 19, HENDEL Verh. zool.-bot. Ges. Wien 81.

Mesaraelia see *Parastenopa*.

Metasphenisca angulicornis sp. n. Egypt p. 7, HENDEL Bull. Soc. ent. Egypte 1931.

Neanomoea Hend. (= *Hamouchaeta* Blanch.) p. 18, HENDEL Verh. zool.-bot. Ges. Wien 81.

Parastenopa Hend. (= *Mesaraelia* Blanch.) p. 17, HENDEL t.c.

Plagiotoma pura sp. n. Porto Rico p. 16, CURRAN Amer. Mus. Nov. no. 456.

Pterandrus rosa olfactory reactions pp. 24-81 figs., RIPLEY & HEPBURN Ent. Mem. Dept. Agric. Un. S. Afr. 7.

Rhagoletis completa diapause pp. 1021-1024, BOYCE J. Econ. Ent. 24.—*R. pomonella* ecology pp. 260-274 figs., LATHROP & NICKELS Ann. Ent. Soc. Amer. 24.

Stephanaciura see *Hypenidium*.

Stephanotrypeta gen. n. p. 8, *brevicosta* sp. n. Egypt p. 9, HENDEL Bull. Soc. ent. Egypte 1931.

Tephritis key p. 390, *fascigera* p. 391, *thoracica* p. 392, *plebeia* p. 393, *marginata* p. 394, *cassiniae* p. 395, spp. n. New Zealand figs., MALLOCH Rec. Canterbury Mus. 3.—*T. cinerea* sp. n. S. Africa p. 123 fig., MUNRO Bull. Ent. Res. 22.—*T. abstersa* notes on group pp. 3-4; *wolffi* sp. n. U.S.A. p. 5, CRESSON Ent. News 42.

Trirhithromyia subgen. n. see *Ceratitidis*.

Trypanea key p. 396, *longipennis* p. 398, *vittigera*, *completa* p. 400, *alboapicata*, *dubia* p. 401, *centralis*, *extensa* p. 402, *imperfecta*, *unimaculata*, *watti* p. 403, *fenwicki* p. 404, spp. n. New Zealand figs., MALLOCH Rec. Canterbury Mus. 3.—*T. rostrata* sp. n. Egypt p. 11, HENDEL Bull. Soc. ent. Egypte 1931.—*T. sarangana* sp. n. Java p. 4 fig., CURRAN Amer. Mus. Nov. no. 474.

Trypeta trigona sp. n. Japan p. 116 fig., MATSUMURA Thous. Ins. Japan 2 1905.

Urophora key p. 116, *petiolata* (with var. n. *flava* p. 117, *seminigra* p. 118) p. 115, *hemixantha* p. 118, spp. n. S. Africa figs., MUNRO Bull. Ent. Res. 22.

Zonosema bezzianum n. n. for *dubium* Bez. nec Johns. p. 13, HENDEL Verh. zool.-bot. Ges. Wien 81.

TACHINISCIDAE.

Additional characters and key to Tachiniscidae, MALLOCH Ann. Mag. N.H. (10) 7 pp. 334-335.

Tachiniscidia gen. n., *africana* sp. n. S. Rhodesia p. 336, MALLOCH t.c.

SEPSIDAE (PIOPHILIDAE).

Chaetopiophila scutellata sp. n. New South Wales p. 293, MALLOCH Proc. Linn. Soc. N.S.W. 56.

Sepsis fulgens Hgg. & Mg. (= *tonsa* Duda) p. 10, HENDEL Verh. zool.-bot. Ges. Wien 81.

MICROPEZIDAE (NERIIDAE, TYLIDAE).

Glyphodera badia p. 21, *gambogipes* p. 22, spp. n. Kamerun, CZERNY Konowia 10.

Grallomyia seiuncta sp. n. Peru, Borneo p. 24, CZERNY t.c.

Plocoscelus fuscimanus sp. n. Costa Rica p. 25, CZERNY t.c.

Rainieria consimilis sp. n. Kamerun p. 23, CZERNY t.c.

Systellapha maculifrons sp. n. Brazil p. 22, CZERNY t.c.

Tylus annuliventris sp. n. Egypt p. 61, HENDEL Bull. Soc. ent. Egypte 1931.

PSILIDAE.

Encarsiocera gen. n. p. 27, *pennipes* sp. n. Arabia p. 28, CZERNY Konowia 10.

CHLOROPIDAE.

Supplement, corrections and index to Neotropical Chloropidae, DUDA Folia zool. hydrobiol. 3 pp. 159-172.

Catalogue of described Australian Chloropidae, MALLOCH Proc. Linn. Soc. N.S.W. 56 pp. 73-76.

Apteroscinis gen. n., *deansi* sp. n. New Zealand p. 407, MALLOCH Rec. Canterbury Mus. 3.

Assuania key, *granulosa* sp. n. Tasmania p. 69, MALLOCH Proc. Linn. Soc. N.S.W. 56.

Baseoneura see *Notaulacella*.

Cadrema insignificans sp. n. New Zealand p. 406, MALLOCH Rec. Canterbury Mus. 3.—*C. rubra* see *Goniaspis*.

Chaethippus Duda type *Hippelates mellinus* Beck. p. 165, DUDA Folia zool. hydrobiol. 3.

Chaetochlorops Mall. type *Goniopsita inquilina* Coq. p. 165, DUDA t.c.

Chloromerus striatifrons ♂ p. 68, MALLOCH Proc. Linn. Soc. N.S.W. 56.

Chlorops denaturata sp. n. Sumatra p. 192, DUDA Arch. Hydrobiol. Suppl. 9.—*C. multisulcata* p. 420, *occipitalis* p. 421, spp. n. New Zealand fig., MALLOCH Rec. Canterbury Mus. 3.—*C. grossa* p. 70, *nubilipalpis* p. 72 Tasmania, *pallidiseta* Sydney p. 71, spp. n., MALLOCH Proc. Linn. Soc. N.S.W. 56.—*C. cavicola* sp. n. S. Rhodesia p. 488, MALLOCH Ann. Mag. N.H. (10) 7.

Chromatopterum key p. 491, *costale* p. 483, *tibiale* p. 484, *difficile* p. 485, *triangulare* p. 486, *minor* p. 487, *simile* 488, spp. n. Philippines, MALLOCH t.c.

Conioscinella Duda type *Oscinis frontella* Fall. p. 166, DUDA Folia zool. hydrobiol. 3.

Dactylothyrea characters, key p. 490, *bakeri* sp. n. Philippines p. 491, MALLOCH Ann. Mag. N.H. (10) 7.

Deltastoma atricornis sp. n. Sydney p. 66 fig., MALLOCH Proc. Linn. Soc. N.S.W. 56.

Diplotoxa anorbitalis p. 416, *lineata*, *orbitalis* p. 417, spp. n. New Zealand figs., MALLOCH Rec. Canterbury Mus. 3.

Epicelyphus key p. 69, *philippinensis* sp. n. Luzon p. 70, MALLOCH Ann. Mag. N.H. (10) 8.

Eutricimba gen. n., *tinctipennis* sp. n. New Zealand p. 408, MALLOCH Rec. Canterbury Mus. 3.

Eutropha ruficornis sp. n. Egypt p. 64, HENDEL Bull. Soc. ent. Egypte 1931.

Gaurax dissimilipes sp. n. Sierra Leone p. 422 fig., MALLOCH Ann. Mag. N.H. (10) 8.

Goniaspis Duda type *Cadrema rubra* Beck. p. 165, DUDA Folia zool. hydrobiol. 3.

Goniopsita Duda type *Oscinis palposa* Fall. (= *Lacometopa* Duda) p. 165, DUDA t.c.—*G. inquilina* see *Chaetochlorops*.

Hippelates feytaudi sp. n. France p. 38, VILLENEUVE Bull. Ann. Soc. ent. Belg. 71.—*H.* classification p. 69, *palipes* Lw. (= *flavipes* Lw.); *currani* n. n. for *collusor* Curr. nec Towns. p. 70; *plebejus*, *nobilis*, *proboscideus* distinguished; *longulus* locality Grenada not Canada; *brasilensis* sp. n. Brazil p. 71, ALDRICH Proc. Ent. Soc. Wash. 33.—*H. mellinus* see *Chaethippus*.

Lacometopa see *Goniopsita*.

Macrostyla Lioy (= *Rhodesiella* Adams) p. 49, keys pp. 50, 61, 67; *tarsalis* Ad. distinct sp. p. 53; *nigrifrons* p. 54, *divergens* p. 57, *africana* p. 69 S. Rhodesia, *macgregori* p. 54, *antennalis* p. 57, *femoralis* p. 58, *normalis* p. 60, *nigrimana* p. 63, *viridifrons* p. 64, *atrifrons* p. 65, *varicornis* p. 68 Philippines, *hirtimana* p. 60, *affinis* p. 67 Java spp. n.; *elegantula* var. n. *hawaiiensis* Hawaii p. 66, MALLOCH Ann. Mag. N.H. (10) 8.

Melanum neozelandicum sp. n. New Zealand p. 418 fig., MALLOCH Rec. Canterbury Mus. 3.

Meroscinis see *Rhodesiella*.

Metapostigma sabulona sp. n. Port Said p. 155, BECKER Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Microchaetaspis Duda type *crassiset* Duda p. 165, DUDA Folia zool. hydrobiol. 3.

Monochaetoscinnella Duda type *Oscinis anonyma* Will. p. 166, DUDA t.c.

Neolcanabates see *Tropidoscinis*.

Notaulacella End. (= *Baseoneura* Duda type *armillata* End.) p. 165, DUDA Folia zool. hydrobiol. 3.

Omochaeta status discussed p. 164, DUDA t.c.

Oscinella forbesi sp. n. Porto Rico p. 12, CURRAN Amer. Mus. Nov. no. 456.—*O. (Oscinis) frit* flight habits pp. 154–160, KORTING Z. angew. Ent. 18; immature stages pp. 352–369 figs., STEEL Ann. Appl. Biol. 18.—*O. limitatum* see *Rhopalopternum*.

Oscinis palposa see *Goniopsita*; *frontella* see *Conioscinella*; *anonyma* see *Monochaetoscinnella*; *limitatum* see *Rhopalopternum*.

Oscinosoma huttoni, *flavoapicalis* p. 411, *speighti* p. 413, *neozelandica*, *diversipes* p. 414 spp. n. New Zealand; *badia* Hutt. further description p. 412. MALLOCH Rec. Canterbury Mus. 3.—*O. nigroannulata* p. 61, *tonnoiri*, *tasmaniensis* p. 62, *tinctipes* p. 63, *luteicornis* p. 64, *luteohirta* p. 65 Tasmania, *nigroviolacea* p. 63, *nigrohirta* p. 65 spp. n.; *similis* varr. n. *apicta*, *fuscibasis* p. 66 Australia figs., MALLOCH Proc. Linn. Soc. N.S.W. 56.

Pemphigonotus characters p. 473, key p. 474, *brunneus* Palawan p. 475, *approximatus* Negros p. 476 spp. n., MALLOCH Ann. Mag. N.H. (10) 7.

Pentanotaulax see *Tricimba*.

Pseudochlorops see *Pseudoscinnella*.

Pseudoscinnella n. n. for *Pseudochlorops* Duda nec Mall. p. 160, DUDA Folia zool. hydrobiol. 3.

Rhodesiella Adams (= *Meroscinis* Meij.) p. 165, DUDA t.c.—See *Macrostyla*.

Rhopalopternum Duda type *Oscinella limitatum* Beck., status doubtful p. 166, DUDA Folia zool. hydrobiol. 3.

Siphonella schineri n. n. for *pumilionis* auct. nec Bjerk. p. 16, HENDEL Verh. zool.-bot. Ges. Wien 81

Siphunculina funicola effect of external factors on development p. 309, JANISCH Z. Morph. Oekol. Tiere 22.

Steleocerus key p. 477, *vittiger* p. 478, *gracilis* p. 480, spp. n. Philippines, MALLOCH Ann. Mag. N.H. (10) 7.

Strandimyia flava locality Brazil, further description p. 167, DUDA Folia zool. hydrobiol. 3.

Tricimba Lioy (= *Pentanotaulax* End.) type *virgulata* End. p. 165, DUDA t.c.—*T. flaviseta* p. 409, *fuscipes* p. 410, spp. n. New Zealand, MALLOCH Rec. Canterbury Mus. 3.

Tropidoscinis End. (= *Neolcanabates* Duda) p. 166, DUDA Folia zool. hydrobiol. 3.

DIOPSIDAE.

Diasemopsis key p. 3, *horni* p. 4, *quadrata*, *albifacies* p. 6, *interrupta* p. 7, *thaxteri* p. 12, *nebulosa* p. 13, *conjuncta* p. 14, *hirsuta* p. 15 Kamerun, *elongata*

p. 8, *disconcerta* p. 9 Liberia, Kamerun, *dejectus* Belgian Congo, *munroi* S. Africa p. 10, *amorus* Rhodesia p. 11, *pleuritica* Congo p. 13 spp. n.; *aethiopica* Rond. (= *varians* Egg., *veliventris* Hend., *elegantula* Brun.) p. 16, CURRAN Amer. Mus. Nov. no. 463.

Diopsis globosa sp. n. Cape Colony p. 9, CURRAN op. cit. no. 492.

EPHYDRIDAE.

Ephydridae of Belgium, BASTIN Mém. Soc. ent. Belg. 23 pp. 177-182.

Ephydridae of Patagonia and S. Chile, CRESSON Dipt. Patag. & S. Chile 1931 pt. 6 pp. 83-116.

Canaceinae of Belgium, BASTIN Mém. Soc. ent. Belg. 23 p. 182.

Athyroglossa argyrata sp. n. Egypt p. 67, HENDEL Bull. Soc. ent. Egypte 1931.

Atissa mimula sp. n. S. America p. 92, CRESSON Dipt. Patag. & S. Chile 1931 pt. 6.—*A. antennalis* sp. n. Necker I. p. 395, ALDRICH Proc. Hawaii. Ent. Soc. 1929-30 7.

Atissiella Cress. (= *Pelignus* Cress.) p. 10, HENDEL Verh. zool.-bot. Ges. Wien 81.

Canace chilensis sp. n. Chile p. 116, CRESSON Dipt. Patag. & S. Chile 1931 pt. 6.

Cirrula Cress. (= *Pogonephydra* Hend.) *gigantea* Cress. (= *chalybea* Hend.) p. 10, HENDEL Verh. zool.-bot. Ges. Wien 81.

Dimecoenia caesia Wulp from *Ephydra* p. 104; *densa* sp. n. S. America p. 105, CRESSON Dipt. Patag. & S. Chile 1931 pt. 6.

Discocerina sana sp. n. S. America p. 90, CRESSON t.c.—*D. mallochi* n. n. for *flavitaris* Tonn. & Mall. nec Frey p. 10, HENDEL Verh. zool.-bot. Ges. Wien 81.

Ditrichophora puella sp. n. S. America p. 91, CRESSON Dipt. Patag. & S. Chile 1931 pt. 6.

Ephydra salina sp. n. Oklahoma p. 7 fig., CURRAN Amer. Mus. Nov. no. 492.—*E. caesia* see *Dimecoenia*.

Ephygrobia nervimaculata sp. n. Aden p. 154, BECKER Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Hyadina certa sp. n. S. America p. 101, CRESSON Dipt. Patag. & S. Chile 1931 pt. 6.

Hydrellia vulgaris p. 94, *osorno* p. 96, spp. n. S. America, CRESSON t.c.—*H. serena* p. 104, *platygastra*, *morrisoni* p. 105, *americana*, *subnitens* p. 106, *crassipes*, *decens* p. 107, *pulla*, *notiphiloides* p. 108, spp. n. U.S.A., CRESSON Ent. News 42.—*H. griseola* development pp. 321-333, KORTING Z. PflKrankh. 41.

Hydrina intensa sp. n. S. America p. 92, CRESSON Dipt. Patag. & S. America 1931 pt. 6.

Ilythea fusca, *niveoguttata* spp. n. S. America p. 99 figs., CRESSON t.c.

Napaea see *Parydra*.

Notiphila teres p. 97, *ancudensis* p. 98, spp. n. S. America, CRESSON Dipt. Patag. & S. Chile 1931 pt. 6.

Ochthera canescens Formosa, *loreta* p. 168, *baia* California, *wrighti* Cuba, *painteri* Honduras p. 169, spp. n., CRESSON Ent. News 42.—*O. insularis* sp. n. Sokotra I. p. 154, BECKER Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.—*O. triornata* see *Stenochthera*.

Paralimna arabica sp. n. S. Arabia p. 154, BECKER Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Parydra Stenh. (= *Napaea* R.-D.) p. 15, HENDEL Verh. zool.-bot. Ges. Wien 81.—*P. aureola* sp. n. S. America p. 103, CRESSON Dipt. Patag. & S. Chile 1931 pt. 6.

Pelignus see *Atissiella*.

Pelinoides gen. n., *sulcata* sp. n. S. America p. 103, CRESSON Dipt. Patag. & S. Chile 1931 pt. 6.

Pogonephydra see *Cirrula*.

Psilopa huttoni n. n. for *metallica* Hutt. nec Schin. p. 10, HENDEL Verh. zool.-bot. Ges. Wien 81.—*P. pectinata* p. 68, *nigricornis* p. 69, spp. n. Egypt, HENDEL Bull. Soc. ent. Egypte 1931.

Psilopina see *Typopsilopa*.

Rhynchopsilopa nitidissima sp. n. Egypt p. 69, HENDEL Bull. Soc. ent. Egypte 1931.

Scatella tonnoiri n. n. for *nitidifrons* Tonn. & Mall. nec Cress. p. 10, HENDEL Verh. zool.-bot. Ges. Wien 81.—*S. stagnalis* morphology of early stages p. 847 figs., SEN J. Mar. Biol. Ass. (N.S.) 17.—*S.* key to Chilean spp., *vulgata* p. 108, *pulla* p. 109, *cauta* p. 110, *edwardsi*, *gestiens* p. 111, *ignara* p. 112, *gregaria* p. 113, *pilifera*, *furens* p. 114, spp. n. Chile figs., CRESSON Dipt. Patag. & S. Chile 1931 pt. 6.

Scatophila tescola p. 106, *avida*, *secca* p. 107, spp. n. S. America figs., CRESSON t.c.

Stenochthera regalis Will. (= *caeruleovittata* Hend.); *triornata* Cress. from *Ochthera* p. 170, CRESSON Ent. News 42.

Typopsilopa Cress. (= *Psilopina* Beck.) *flavitaris* Cress. (= *electa* Beck.) p. 10, HENDEL Verh. zool.-bot. Ges. Wien 81.

DROSOPHILIDAE.

Drosophilidae from the Sunda Is., DUDA Arch. Hydrobiol. Suppl. 9 pp. 194-198.

Bryania gen. n. (nr. *Asteia*) p. 396, *bipunctata* sp. n. Hawaii p. 397, ALDRICH Proc. Hawaii. Ent. Soc. 1929-30 7.

Drosophila effect of radiation on starved and anaesthetised flies p. 121, HANSON & HEYS Anat. Rec. 51 suppl.—*D. apectinata* Java p. 194, *longitarsis* Bali p. 195, *thienemanni* Sumatra p. 196, spp. n., DUDA Arch. Hydrobiol. Suppl. 9.—*D. funebris*, *melanogaster* effect of shortened larval feeding time on size of egg pp. 209-218 figs., GAUSE Biol. Zbl. 51.—*D. melanogaster* cytological evidence as to status pp. 19-30, 8 figs., JEFFREY Amer. Nat. 65; anatomy and variability of nervous system and sense organs pp. 559-663 figs., HERTWECK Z. wiss. Zool. 139; embryology, reproductive system, spermatogenesis, effects of ultra-violet rays pp. 187-288 figs., GEIGY Rev. suisse Zool. 38; regeneration of Johnston's organ after amputation p. 173, FRIZA & PRZIBRAM Anz. Akad. Wiss. Wien 67 1930; resistance to drowning pp. 435-459 figs., EDDY J. Morph. 51.

Marbenia gen. n. p. 31, *peculiaris* sp. n. Panama p. 32 figs., MALLOCH Proc. U.S. Nat. Mus. 78 no. 2858.

Phlebosotera lacteipennis p. 65, *striata* p. 67, spp. n. Egypt, HENDEL Bull. Soc. ent. Egypte 1931.

Podocera see *Stenomicro*.

Sigaloessa insularis sp. n. Porto Rico p. 13, CURRAN Amer. Mus. Nov. no. 456.

Stenomicro Coq. (= *Podocera* Czerny) p. 11, HENDEL Verh. zool.-bot. Ges. Wien 81.

GEOMYZIDAE (TRIXOSCELIDAE).

Chiromyza vittata p. 62, *robusta* p. 63, spp. n. Egypt, HENDEL Bull. Soc. ent. Egypte 1931.

MILICHIIDAE (OCHTHIPHILIDAE, CHAMAEMYIIDAE).

Aldrichomyza longirostris sp. n. Egypt p. 71, HENDEL Bull. Soc. ent. Egypte 1931.

Chamaemyia status discussed p. 13, HENDEL Verh. zool.-bot. Ges. Wien 81.

Leucopis obscura larva, pupa, adult pp. 674-679 figs., TRÄGÅRDH Z. angew. Ent. 18.

Milichiella argentiventris sp. n. Egypt p. 72, HENDEL Bull. Soc. ent. Egypte 1931.—*M. circularis* Hawaii p. 397, *bakeri* Luzon p. 398, *smithi* Siam p. 399, spp. n., ALDRICH Proc. Hawaii. Ent. Soc. 1929-30 7.—*M. nigripes*, *lacteiventris* spp. n. Australia p. 77, MALLOCH Proc. Linn. Soc. N.S.W. 56.

AGROMYZIDAE (PHYTOMYZIDAE).

Revision of Agromyzidae of Palaearctic Region, HENDEL in LINDNER Flieg. Pal. Reg. 59 pp. 1-256, 259 figs.

Leaf-mining Diptera of State of Pisek, Bohemia, VIMMER Acta Soc. ent. Čech. 27 1930 pp. 54-66, 21 figs.

Acarthophthalmus nigrinus Zett. (= *Agromyza coxata* Zett.) p. 15, HENDEL Verh. zool.-bot. Ges. Wien 81.

Agromyza key to Palaearctic spp. p. 93, *alnbetulae* W. and Centr. Europe p. 101, *alticeps* Italian Riviera p. 102, *distans* Austria p. 114, *freyi* Finland p. 119, *genistae* Germany, Tunis p. 121, *graminicola* Austria p. 122, *kolobowai* Ukraine, *lapponica* Lappland p. 128, *microproboscis* Tunisia p. 131, *nigri-femur* Austria, Turkestan, Spain, Fin-

land p. 137, *nigrociliata* Austria, Hungary p. 139, *oryzae* Ussuri p. 142, *pittodes* Finland p. 144, *sanguisorbae* Centr. Europe p. 149, *stackelbergi* Turkestan p. 152, spp. n. figs., HENDEL in LINDNER Flieg. Pal. Reg. 59.—*A. baptisiae* p. 275, *cinereifrons* p. 276, *viridis* p. 277, spp. n. U.S.A., FROST Canad. Ent. 63.—*A. commelinae* W. Indies p. 72, *ipomaeae* Porto Rico p. 74, spp. n., FROST Ent. News 42.—*A. coxata* see *Acarthophthalmus nigrinus*.

Amauromyza subgen. n. see *Dizygomyza*.

Calycomyza subgen. n. see *Dizygomyza*.

Cephalomyza subgen. n. see *Dizygomyza*.

Cryptochaetum list of known spp. p. 931, key p. 935, *iceryae* morphology, biology pp. 938–969 figs., THORPE Proc. Zool. Soc. Lond. 1930.

Dendromyza subgen. n. see *Dizygomyza*.

Dizygomyza, *Dendromyza* subgen. n. p. 22, *alunulata* Finland, *cambii* Holland p. 24, *laticeps*, *latigenis* Austria p. 28, (*Cephalomyza* subgen. n.) p. 32; *Poëmyza* subgen. n. p. 35; *kerteszi* Hungary p. 40, *pseuderrans* Austria, Germany p. 46, *pygmella* Kamtchatka, *pygmina* Ukraine p. 48, *semiatra* Rumania p. 49, *verrucosa* Finland (*Icteromyza* subgen. n.) p. 51, *calosoma* Germany, Lappland p. 53, (*Amauromyza* subgen. n.) p. 59, *balkanica* Balkans p. 60; *Calycomyza* p. 65, *Trilobomyza* p. 71, *Praspedomyza* p. 77 subgen. n.; *bulbiseta* Norway p. 84, *iridophaga* France p. 88, *plumbea* Austria, *poae* Germany, Austria p. 92, *setifrons* Kamtchatka p. 93 spp. n. figs., HENDEL in LINDNER Flieg. Pal. Reg. 59.—*D. staryi* sp. n. Czechoslovakia p. 93 figs., HENDEL Mitt. deuts. ent. Ges. 2.

Euestelia status p. 13, HENDEL Verh. zool.-bot. Ges. Wien 81.

Icteromyza subgen. n. see *Dizygomyza*.

Lirionomyza key to Palaearctic spp. p. 198, *Phytolirionomyza* subgen. n. p. 203, *beata* p. 209, *cilicornis* p. 213, *deficiens* p. 215, *fasciata* p. 218, *haploneura* p. 224, *nigriorbita*, *nigrohumeralis* (also Italy) p. 234, *orbitella* (also Finland) p. 236, *parva* (also Finland) p. 240,

periorbita p. 243, *subobliqua* p. 251, *trichophthalma* p. 253 Austria, *bulbata*, *cannabis* (also Germany) p. 211, *minima* p. 233, *opaca* p. 236 Finland, *esulae* Germany p. 216, *euphorbiana* Canary Is. p. 217, *flavopicta* Sweden p. 222, *globulariae* Switzerland, Austria p. 223, *hungarica* Hungary p. 224, *melanorhabda* France, *mediterranea* p. 232 Dalmatia, *occipitalis* Russia, *obliqua* p. 235, *orbonella* p. 238, *striata* p. 249 Centr. and E. Europe, *pedestris* Europe p. 243, *phryne* p. 244, *soror* p. 248 Centr. Europe, *sonchi* Centr. and W. Europe p. 247, *triglochinae* Denmark p. 253, spp. n. figs., HENDEL in LINDNER Flieg. Pal. Reg. 59.

Melanagromyza key to Palaearctic spp. p. 157, *albocilia* Austria, Hungary p. 161, *goniaea* p. 165, *hexachaeta* Centr. and W. Europe, *inaequabilis* Asia Minor p. 166, *orbiculata* Hungary, Finland p. 169 spp. n.; *aeneiventris* subsp. n. *fuscociliata* Europe p. 158 figs., HENDEL in LINDNER t.c.

Ophiomyia key to Palaearctic spp. (*Tylomyza* subgen. n.) p. 181, *buccata* Austria p. 183, *latifrons* Italy p. 185, *persimilis* Austria p. 193, *rapta* Italian Tyrol p. 196, spp. n. figs., HENDEL in LINDNER t.c.

Phytolirionomyza subgen. n. see *Lirionomyza*.

Phytomyza *coniophila* p. 534, *coniopais* p. 536, *chaerophylliana* p. 537, *calthophila* p. 539, *arnicophila* p. 541, *origani* p. 549, spp. n. Germany figs., HERING Z. PflKrankh. 41.—*P. conii* p. 96, *cicativora* p. 98, *carvi* p. 100, *daucivora* p. 101, *aromatici* p. 102, *aurei* p. 104, *hoppiana* p. 105, *atrigenis* p. 107, spp. n. Germany figs., HERING Z. wiss. InsektBiol. 26.—*P. dura* sp. n. Quebec p. 10, CURRAN Amer. Mus. Nov. no. 492.—*P. mitis* sp. n. Canada p. 97, CURRAN Canad. Ent. 63.—*P. ilicis* biology pp. 25–27, SPENCER Proc. Ent. Soc. Br. Columbia 28.

Poëmyza subgen. n. see *Dizygomyza*.

Praspedomyza subgen. n. see *Dizygomyza*.

Tethina insularis sp. n. Hawaii p. 395, ALDRICH Proc. Hawaii. Ent. Soc. 1929–30 7.

Trilobomyza subgen. n. see *Dizygomyza*.

Tylomyza subgen. n. see *Ophiomyia*.

Pupipara.

Pupipara of China, SCHUURMANS STEKHOVEN Lingnan Sci. J. 7 pp. 499-502.

HIPPOBOSCIDAE.

Hippoboscidae of Yucatan, BEQUAERT Psyche 38 pp. 186-193.

Lipoptena capreoli characters distinguishing from *cervi* p. 264 fig., FALCOZ Parasitology 23.—*L. mazamae* Rond. (= *conifera* Speis., *surinamensis* Bau, *depressa* var. *mexicana* Towns.) p. 191, BEQUAERT Psyche 38.

Olfersia coriacea Wulp (= *meleagridis* Lutz, Neiva and Costa Lima) p. 186, BEQUAERT t.c.

Or[ni]thomyia aobatonis sp. n. Japan p. 119 fig., MATSUMURA Thous. Ins. Japan 2 1905.

Pseudolynchia maura biology pp. 525-532, COATNEY Parasitology 23.

STREBLIDAE.

Paradyschiria parvula sp. n. Brazil p. 267 figs., FALCOZ Parasitology 23.

Raymondia javanica sp. n. Java p. 265 figs., FALCOZ t.c.—*R. waterstoni* sp. n. E. Africa p. 79; *bedfordi* Ferr. (= *quadricaps* Jobl.) p. 83 figs., JOBLING Parasitology 23.

NYCTERIBIIDAE.

Basilia bellardii description pp. 205-219 figs., SCHUURMANS-STEKHOVEN Z. Parasitenk. 3; biology, orientation, movement, feeding habits, physiology pp. 220-257, 836 figs., HASE Z. Parasitenk. 3.

Nycteribia nomenclature discussed pp. 743-765 figs., COLLINS Bull. Nat. Inst. Health no. 155.

SIPHONAPTERA.

Factors affecting distribution and variation in N. American Siphonaptera, EWING Amer. Nat. 65 pp. 360-369, 1 map.

Fleas collected in Ecuador, JORDAN Novit. zool. 37 pp. 135-143, 12 figs.

Short synopsis of flea morphology, KOPSTEIN Meded. Dienst Volksgezondh. Ned.-Ind., Foreign edn. 20 pp. 59-72, 13 figs.

Supplement to catalogue of Aphaniptera of Palaearctic Region, WAGNER Konowia 10 pp. 96-100.

Fleas collected in Tunis, WASSILIEFF Arch. Inst. Pasteur Tunis 20 pp. 59-65.

Ceratophyllus henleyi subsp. n. *oranus* Algeria p. 233 36; *dolens* subsp. n. *quintanus* p. 136; *campaniger* p. 143 Ecuador; *infestus* subsp. n. *duratus* Tanganyika p. 145 37 figs., JORDAN Novit. zool.

Craneopsylla chiris Argentina p. 313, *tolmera* Ecuador p. 314, spp. n. figs., JORDAN op. cit. 36.—*C. tolmera* and others see *Sphinctopsylla*; *achilles* see *Plocopsylla*.

Ctenidiosomus gen. n., *spillmanni* sp. n. Ecuador p. 311 figs., JORDAN Novit. zool. 36.

Ctenocephalides felis larva pp. 28-33 figs., PINTO Bol. biol. fasc. 18.

Ctenophthalmus arvernus sp. n. France p. 225 fig., JORDAN Novit. zool. 36.—*C. agyrtes* races figs. p. 137, JORDAN Proc. Ent. Soc. Lond. 5.

Ischnopsyllus indicus sp. n. N. India p. 147 fig., JORDAN Novit. zool. 37.

Myodopsylla wolffsohni subsp. n., *salvasis* Venezuela p. 264 fig., JORDAN Z. Parasitenk. 3; egg, larva pp. 258-263 figs., HASE Z. Parasitenk. 3.

Neopsylla sondaica Java p. 220, *avida* p. 221, *tricata* p. 223 S. Annam. 36, *kopsteini* Java p. 145 37 spp. n. figs., JORDAN Novit. zool. 36.

Parapsyllus coccyti see *Tetrapsyllus*.

Plocopsylla gen. n. for *Craneopsylla achilles* Roths. (type) p. 138; *phobos*, *hector* spp. n. Ecuador p. 139 figs., JORDAN Novit. zool. 37.

Saphiopsylla gen. n., *nupera* (with subsp. n. *palina* Dolomites p. 231) sp. n. France p. 227 figs., JORDAN op. cit. 36.

Sphinctopsylla gen. n. for *Craneopsylla tolmera* Jord. (type), *maris* Roths., *ares* Roths., *inca* J. & R. p. 141 figs., JORDAN op. cit. 37.

Tetrapsyllus gen. n. for *Parapsyllus cocyti* Roths. (type), *comis* sp. n. Ecuador p. 135 fig., JORDAN t.c.

HEMIPTERA.

Hemiptera, other than Pentatomoidea and Cercopidae, from Korinchi, W. Sumatra, CHINA et al. J. F.M.S. Mus. 8 1931 pp. 214-217.

Annotated list of bugs of salt water of Oldeslohe, Holstein, BENICK Mitt. geogr. Ges. Lübeck (2) 31 1926 pp. 91-101.

Notes on some Hemiptera collected in Var and Pyrenees, France, BERNARD Bull. Soc. ent. Fr. 1931 pp. 62-64.

List of Hemiptera of Normandy, BRUNETEAU Bull. Soc. Sci. nat. Rouen (7) 64-65 1930 pp. 146-156.

Hemiptera of Hertfordshire, BUTLER & PALMER Trans. Herts. Nat. Hist. Soc. 18 1929 pp. 206-211.

Annotated list of Hemiptera from the Sarek district, Lapland, EKBLOM Naturwiss. Untersuch. Sarekgeb. Schwed. Lappl. 4 Zool. pp. 939-948, 2 figs.

List of Hemiptera from Botel Tobago I., Formosa, ESAKI Bull. Biogeogr. Soc. Japan 2 pp. 209-220, 3 figs.

Notes on Utah Heteroptera and Homoptera, KNOWLTON Ent. News 42 pp. 40-43, 68-72.

Rhynchota of Japan, with English descriptions of new genn. and spp. described in 1000 Insects of Japan, MATSUMURA Ill. 1000 Ins. Jap. Vol. 1 (Rhynch.) 98 & 38 pp. 16 pls. 1930.

The bionomics of some Malayan Rhynchota, MILLER Sci. Ser. Dept. Agric. S.S. & F.M.S. no. 5 142 pp. 123 figs.

Annotated list of Hemiptera of Normandy, POISSON Bull. Soc. linn. Normandie (7) 10 1927 pp. 44*-46*, 113*-115*; (8) 1 1928 pp. 57-83 4 figs.; (8) 3 pp. 15-19.

Geographical notes on Hemiptera of Normandy, POISSON Bull. Soc. linn. Normand. (8) 2 (1929) 1930 pp. 6-8.

List of Hemiptera of Mans (Sarthe) with biogeographical notes, POISSON & MONGUILLON Bull. Soc. linn. Normandie (8) 3 pp. 19-27.

List of Hemiptera from the Tobolsk district, SAMKO Izv. W. Siberian Sect. Russ. Geogr. Soc. 7 1930 pp. 165-179.

List of bugs of Silesia, SCHOLZ Ent. Anz. 11 pp. 79-82, 99 etc.

Heteroptera and Homoptera of the national forests of Portugal, DE SEABRA Arq. Secc. Biol. Parasit. Univ. Coimbra 1 1930 pp. 215-260, 1 pl., 267-282, 363-368.

Reply to Haupt's critical discussion of Weber, Biologie der Hemipteren, WEBER Mitt. deuts. ent. Ges. 2 pp. 136-143.

Rhynchota from Omsk, WNUKOWSKY Mitt. deuts. ent. Ges. 2 pp. 9-16.

Heteroptera.

Netherlands Hemiptera in 's Rijks Museum of Natural History, I, Mesoveliidae, Hebridae, Veliidae, Gerridae, Hydrometridae, Aradidae, Lygaeidae and Pyrrhocoridae, BLÖTE Zool. Meded. 13 1930 pp. 241-258.

Distribution of Heteroptera in Ukraine, GROSS-HEIM Trav. Mus. zool. Kiev no. 10 pp. 63-114.

Aquatic Hemiptera of Lake Balaton, HORVATH Arb. Ung. biol. Forsch. Inst. 4 pp. 59-63.

Heteroptera of Oland, Gotland, Fårön and Gotska Sandön, Sweden, JANSSON Ent. Tidskr. 51 1930 pp. 36-47.

Hemiptera Heteroptera of the Third Mount Everest Expedition, 1924, I, KIRICHENKO Ann. Mag. N.H. (10) 7 pp. 363-385.

Aquatic Heteroptera from N.W. Persia and Caucasus, KIRICHENKO Trav. Sta. biol. Caucase Nord 3 1930 pp. 45-62, 1 map.

Hemiptera Cryptocerata from Usuri, KIRICHENKO Annu. Mus. zool. Acad. Leningrad 31 pp. 431-440, 10 figs.

First contribution to a revision of Hemiptera Heteroptera of Venezia Tridentina, MENOZZI Studi trentini 12 pp. 199-209.

Hemiptera-Heteroptera of the Hartz Region, MÜLLER Deuts. ent. Z. 1931 pp. 65-112, 1 pl.

Additions to the list of Palaearctic Hemiptera Heteroptera in the Coimbra Museum, DE SEABRA Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 47 1930 18 pp.

PLATASPIDAE (COPTOSOMATIDAE).

Bozius structure of labium p. 283 figs., CHINA Ann. Mag. N.H. (10) 7.

Brachyplatys subaeneus morphology, biology pp. 633-647 figs., WALL Lingnan Sci. J. 7.

Coptosoma formosanum sp. n. Formosa p. 221 [English description], SHIRAKI Spec. Rep. Formosa Agric. Expt. Sta. 8 1913.—*C. timbuktensis* sp. n. Timbaktu p. 333, JENSEN-HAARUP Ent. Medd. 17.—*C. sikkimensis* sp. n. Sikkim p. 576 fig., CHINA Ann. Mag. N.H. (10) 7.

Coptosomoides gen. n. p. 281, *myrmecophilus* sp. n. Sumatra p. 282 figs., CHINA t.c.

Erythrosomaspis gen. n. p. 574, *stevensi* sp. n. Darjiling p. 575 figs., CHINA t.c.

PENTATOMIDAE.

Male genitalia of Canadian Pentatomids, BAKER Canad. J. Res. 4 pp. 148-179, 21 figs.

List of Californian Pentatomidae, especially from the south, NORLAND J. Ent. Zool. 23 pp. 45-46.

List of Pentatomidae of National Park, Utah, WOODBURY Pan-Pacific Ent. 7 pp. 124-125.

Acanthosoma chinanum sp. n. Tibet p. 368, KIRICHENKO Ann. Mag. N.H. (10) 7.—*A. denticauda* subsp. n. *japonica* Japan p. 218, JENSEN-HAARUP Deuts. ent. Z. 1930.

Aelia acuminata morphology, biology 22 pp. figs., MALENOTTI Italia agric. 68 no. 12; Atti Accad. agric., Sci. Lett. Verona (5) 9 pp. 141-148, 4 pls.

Aeliopsis gen. n., *bucculata* sp. n. Hoggar p. 77 figs., DE BERGEVIN Bull. Soc. Hist. nat. Afr. N. 22.

Agaeus elegantulus sp. n. E. Africa p. 332, JENSEN-HAARUP Ent. Medd. 17.

Alcaeorhynchus grandis morphology, biology pp. 82-84 figs., ESTABLE An. Mus. nac. Montevideo (2) 3 1929.

Alphocoris pachycephalus sp. n. Hoggar p. 153 figs., DE BERGEVIN Bull. Soc. Hist. nat. Afr. N. 22.

Amasenoides gen. n. p. 216, *virescens* sp. n. Formosa p. 217 [English descriptions], SHIRAKI Spec. Rep. Formosa Agric. Expt. Sta. 8 1913.

Apines africana sp. n. Nyasaland p. 331, JENSEN-HAARUP Ent. Medd. 17.

Aspideurus pulcher sp. n. Sumatra p. 330, JENSEN-HAARUP t.c.

Bagrada picta effect of external factors on development pp. 297-304 figs., JANISCH Z. Morph. Oekol. Tiere 22.

Basicryptus brunneus sp. n. Congo p. 327, JENSEN-HAARUP Ent. Medd. 17.

Bathycolia dubia sp. n. Brazil p. 329, JENSEN-HAARUP t.c.

Brachyaulax miyakonus sp. n. Riukiu I. p. 33 fig., MATSUMURA Trans. Sapporo N.H. Soc. 1 1906.

Brasilania gen. n., *fabulirostris* sp. n. Brazil p. 323, JENSEN-HAARUP Ent. Medd. 17.

Canthecona rufescens var. n. *similis* Java p. 324, JENSEN-HAARUP t.c.—*C. furcellata* var. n. *formosana* p. 210 [in Japanese], SHIRAKI Spec. Rep. Formosa Agric. Expt. Sta. 8 1913.

Dichobothrium borneense sp. n. Borneo p. 220 fig., JENSEN-HAARUP Deuts. ent. Z. 1930.

Ditomotarsus gayi subsp. n. *virens* Chile p. 219, JENSEN-HAARUP t.c.

Dymantis grisea sp. n. Guinea p. 328, JENSEN-HAARUP Ent. Medd. 17.

Edessa beenkei sp. n. Brazil p. 221, JENSEN-HAARUP Deuts. ent. Z. 1930.

Elasmostethus membraneus sp. n. Formosa p. 206 [English description], SHIRAKI Spec. Rep. Formosa Agric. Expt. Sta. 8 1913.

Elasmucha gracilis p. 219, *tauricornis* p. 220, spp. n. Sikkim figs., JENSEN-HAARUP Deuts. ent. Z. 1930.

Esbenia gen. n. p. 334, *major* (type), *minor* spp. n. Cape of Good Hope p. 335, JENSEN-HAARUP Ent. Medd. 17.

Eupolemus key p. 216, *pallidus* Luzon, *distanti* p. 217, *wagneri* p. 218 Australia, spp. n. figs., JENSEN-HAARUP Deuts. ent. Z. 1930.

Eurygaster maurus further description; *meridionalis* varr. n. *maculatus*, *nigricans* Italy p. 12, MANCINI Boll. Soc. ent. ital. 63.—*E. integriceps* variation in genitalia pp. 129-143 figs., KERKIS Zool. Anz. 93.

Eusarcoris trigonus sp. n. Tibet p. 365, KIRICHENKO Ann. Mag. N.H. (10) 7.

Gonopsis guineensis sp. n. Guinea p. 327, JENSEN-HAARUP Ent. Medd. 17.

Halycorypha brunnea sp. n. Cape of Good Hope p. 325, JENSEN-HAARUP t.c.

Halyomorpha picus morphology, life-history p. 25 fig., HOFFMANN Peking Nat. Hist. Bull., Peking 5 pt. 2.

Mesoliogaster subgen. n. see *Pentatoma*.

Murgantia peruviana sp. n. Peru p. 331, JENSEN-HAARUP Ent. Medd. 17.

Pentatoma (*Mesoliogaster* subgen. n.) *kingstoni* sp. n. Tibet p. 367, KIRICHENKO Ann. Mag. N.H. (10) 7.

Phloea paradoxa morphology, biology pp. 207-212, BRIEN Miss. biol. Belge Brésil (1922-23) 2 1930.

Pycnum oculatum sp. n. Java p. 328, JENSEN-HAARUP Ent. Medd. 17.

Pygomenida nicobarensis sp. n. Nicobar Is. p. 329, JENSEN-HAARUP t.c.

Rhynchocoris humeralis life-history pp. 817-819 figs., HOFFMANN Lingnan Sci. J. 7.

Schismatops diversa sp. n. Congo p. 326, JENSEN-HAARUP Ent. Medd. 17.

Schizops minor sp. n. Bengal p. 325, JENSEN-HAARUP t.c.

Solenostethium citri sp. n. Formosa [in Japanese 5 1913 p. 115, in English 8 1913 p. 207], SHIRAKI Spec. Rep. Formosa Agric. Expt. Sta.

Stauralia wagneri sp. n. Australia p. 219 fig., JENSEN-HAARUP Deuts. ent. Z. 1930.

Tessaratomia papillosa morphology, biology pp. 29-80 figs., FALKENSTEIN Lingnan Sci. J. 10.

Thoreyella key p. 319, *pulchra* S. America p. 320, *taurus* p. 321, *pallida* p. 322 Brazil, spp. n., JENSEN-HAARUP Ent. Medd. 17.

Triplatyx dubius sp. n. Madagascar p. 222, JENSEN-HAARUP Deuts. ent. Z. 1930.

Troilus luridus process of feeding pp. 138-140 fig., MICHALK Z. wiss. Insektbiol. 26.

COREIDAE.

Clavigralla spinofemoralis sp. n. Formosa p. 225 [English description], SHIRAKI Spec. Rep. Formosa Agric. Expt. Sta. 8 1913.

Cletus infuscatus sp. n. Riukiu I. p. 33 fig., MATSUMURA Trans. Sapporo N.H. Soc. 1 1906.

Coriomeris nebulivagus sp. n. Tibet p. 369, KIRICHENKO Ann. Mag. N.H. (10) 7.

Corizus sapporensis sp. n. Japan p. 17 fig., MATSUMURA Thous. Ins. Japan 2 1905 [in Japanese]; English description p. 23 fig., MATSUMURA Ill. Thous. Ins. Jap. 1 (Rhynch.) 1930.

Dalader formosanus sp. n. Formosa p. 259 fig., ESAKI Annot. zool. jap. 13.

Derepteryx chinai sp. n. Fed. Malay States p. 195 figs., MILLER Bull. Ent. Res. 22; biology p. 77 figs., MILLER Sci. Ser. Dept. Agric. S.S. & F.M.S. no. 5.

Notobitus bambusae sp. n. Ceylon p. 115 fig., HENRY Spolia zeylan. 16.

Ochrochira rubrotincta sp. n. Fed. Malay States p. 196 figs., MILLER Bull. Ent. Res. 22; biology p. 81 figs., MILLER Sci. Ser. Dept. Agric. S.S. & F.M.S. no. 5.

ARADIDAE, DYSODIIDAE.

Aneurus tagasastei sp. n. Teneriffe p. 193 figs., ENDERLEIN Zool. Anz. 93.

Aradus angustellus morphology p. 150, PORTER Rev. chil. Hist. nat. 34 1930.

Mezira americana morphology p. 149, PORTER t.c.

LYGAEIDAE (MYODOCHIDAE) and
COLOBATHRISTIDAE.

Key to spp. of Oxycareninae of Portugal p. 2 figs.; DE SEABRA Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 44 1930.

Acompus key to French spp. p. 61 fig., PÉNEAU Bull. Soc. Sci. nat. Ouest Fr. (4) 10.

Aphanus fallaciosus sp. n. Riukiu I. p. 34 fig., MATSUMURA Trans. Sapporo N.H. Soc. 1 1906.

Arocatus melanocephalus, *roeseli* distinguishing characters pp. 1-4; *r. varr. n. barrosii*, *royerii* Spain p. 4 figs., DE SEABRA Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 41 1930.

Belonochilus rubricatus Berg. from *Nysius* p. 16, KIRICHENKO N. Beitr. syst. Insektenk. 5.

Calyptonotus quadratus new to Portugal p. 1, key to spp. p. 2 figs., DE SEABRA Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 45 1930.

Domiduca chinai sp. n. Japan p. 260 fig., ESAKI Annot. zool. jap. 13.

Emblethis griseus new to Portugal p. 5 fig., DE SEABRA Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 45 1930.

Eucosmetus annulicornis sp. n. Sikkim p. 372, KIRICHENKO Ann. Mag. N.H. (10) 7.

Geocoris chinai sp. n. Tibet p. 371, KIRICHENKO t.c.

Hexatrachocoris gen. n. p. 378, *melleus* sp. n. Sikkim p. 379, KIRICHENKO t.c.

Ischnorrhynchus obovatus sp. n. California p. 110, VAN DUZEE Pan-Pacific Ent. 7.

Lachnodrymodes gen. n. p. 381, *sikkimensis* sp. n. Sikkim p. 382, KIRICHENKO Ann. Mag. N.H. (10) 7.

Leuconysius desertorum Kir. from *Nysius* p. 16, KIRICHENKO N. Beitr. syst. Insektenk. 5.

Locutius maculatus sp. n. Sikkim p. 276, KIRICHENKO Ann. Mag. N.H. (10) 7.

Lygaeus formosanus sp. n. Formosa p. 107 [in Japanese], SHIRAKI Spec. Rep. Formosa Agric. Expt. Sta. 5 1913.

Macropterna marginalis new to Portugal p. 1 figs., DE SEABRA Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 44 1930.

Naudarensia distanti sp. n. Sikkim p. 380, KIRICHENKO Ann. Mag. N.H. (10) 7.

Neurocladus brachiidens new to Portugal, further description p. 1 figs., DE SEABRA Mem. Estud. Mus. zool. Univ. Coimbra (1) no. 46 1930.

Nysius notes on Portuguese spp. pp. 1-4, *ericae* new to Portugal p. 4 figs., DE SEABRA op. cit. (1) no. 42.—*N. rubricatus* see *Belonochilus*; *desertorum* see *Leuconysius*.

Orthaea cephalotes sp. n. Sikkim p. 373, KIRICHENKO Ann. Mag. N.H. (10) 7.

Plinthisus acanthothorax sp. n. Sikkim p. 375, KIRICHENKO t.c.

Spilostethus oreophilus sp. n. Tibet p. 370, KIRICHENKO t.c.

Trapezonotus aeneiventris sp. n. Tibet p. 377, KIRICHENKO t.c.

PYRRHOCORIDAE.

Catalogue of the Pyrrhocoridae in 's Rijks Mus. nat. Hist., Leiden, BLÖTE Zool. Meded. 14 pp. 97-136, 6 figs.

List of Larginae in the Stettin and Berlin Museums, SCHMIDT Stett. ent. Z. 92 pp. 1-51.

Acinocoris key p. 4, *femoralis* Brazil p. 8, *simulans* p. 9, *similis* p. 12 Colombia, *surinamensis* Surinam p. 10, *flavicornis* Costa Rica p. 13, spp. n., SCHMIDT Stett. ent. Z. 92.

Antilochrus discifer var. n. *rufifemoratus* Netherlands Indies; *latusculus* sp. n. Tenimber p. 103, BLÖTE Zool. Meded. 14.

Arhaphe characters, *breviata* sp. n. Kansas p. 227, key to allied spp. p. 228, BARBER Canad. Ent. 56 1924.—*A. mimetica* see *Japetus*.

Armatus verrucosus see *Pseudindra*.
Dindymellus coiminatoriensis see *Iphita*.

Dindymus atritarsis Neth. Indies, *brevis* Formosa p. 109, *flavipennis* New Guinea p. 110, *longicollis* Nias, *obscurus*

Java p. 111, *seminiger* p. 113 (with var. n. *univittatus*) Sumatra, *triangulifer* Timor p. 114 spp. n.; *rubiginosus* var. n. *subsanguineus* Nias p. 113; *pyrochrous* var. n. *rufibasis* New Guinea p. 112, BLÖTE Zool. Meded. 14.

Dysdercus brevis p. 117, *honestus* p. 122, *immarginatus* p. 124 Brazil, *collaris* p. 119, *columbicus* p. 120 Colombia, *imitator* (with varr. n. *pseudoannulus* (also Bolivia) p. 123, *pseudoruficollis* p. 124 Peru), *fuscifasciatus* p. 121, *infuscatus* p. 126 Dutch Guiana, *incarnatus* Celebes p. 124, *jacobsoni* p. 127, *transversalis* p. 132 Netherlands Indies, *pallidus* Venezuela p. 129 spp. n.; *incertus* var. n. *flavipennis* Panama p. 126; *mimus* var. n. *distanti* (= *ruficollis* Dist.) Trinidad; *maurus* Dist. (= *howardi* var. *minor* Ball.) p. 128; *poecilus* var. n. *parvisignatus* Java p. 130; *cingulatus* F. (= *megalopygus* Bredd.) p. 118; *fulvoniger* DeG. (= *howardi* Ball.) further description p. 121; *crucifer* Stål (= *simplex* Wlk.) p. 121; *mandus* Wlk., *splendidus* Dist. varr. of *concinus* Stål p. 120; *ruficollis* L. (with var. n. *albomembranaceus* Brazil) further description p. 131 figs., BLÖTE t.c.

Ectatops ophthalmicus var. n. *nigri-ventris* Timor; *simalurensis* sp. n. Simalur p. 106 fig., BLÖTE t.c.

Euryophthalmus fulvipes sp. n. Curaçao p. 98, BLÖTE t.c.

Fibrenus key p. 34, *gibbicollis* var. n. *collaris*; *pehlkei* p. 37, *bucculatus* p. 38, *nigricornis* Colombia, *ferrugineus* p. 39, *rammei* p. 51 Brazil, *intermedius* p. 41, *nigripes* p. 42 Paraguay, spp. n., SCHMIDT Stett. ent. Z. 92.

Indra verrucosus see *Pseudindra*.

Ipitha coimbatorensis Dist. from *Dindymellus* p. 101, BLÖTE Zool. Meded. 14.

Japetus Dist. good genus, *mimetica* Barb. from *Arhaphe* p. 237, BARBER Canad. Ent. 56 1924.

Largus humilis varr. n. *stili*, *hahni*, *nigricornis* p. 16; *pectoralis* p. 17, *spinosus* p. 19 (with var. n. *taeniatus*), *maculatus* p. 20, *crinitus* p. 22, *penskyi* p. 30 Brazil, *ceblini* Paraguay p. 31, *nigrinervis* Argentina p. 18, *brunki* p. 22, *maculiventris* p. 25 Mexico,

radzecki p. 24, *flaviventris* p. 25, *maculatus* p. 26 (with varr. n. *testaceus*, *femoralis* p. 27) Colombia, *haenschi* Ecuador p. 28, *holstei* Surinam p. 29, spp. n.; *cinctiventris* var. n. *ater* Brazil p. 21, SCHMIDT Stett. ent. Z. 92.

Lecadra schmidtii sp. n. Brazil p. 49, SCHMIDT t.c.

Odontopus somaliensis sp. n. Br. Somaliland p. 167, GOURSAT Bull. Soc. ent. Fr. 1931.—*O. notabilis* var. n. *kambovensis* Katanga p. 267 figs., GOURSAT Bull. Soc. zool. Fr., Paris 56.

Physopelta parviceps sp. n. Japan p. 100 fig., BLÖTE Zool. Meded. 14.

Pseudindra gen. n. for *Armatillus verrucosus* Dist. p. 107, BLÖTE t.c.

Pyrrhocoris apterus description, biology p. 40 figs., Hofmänner Rameau de Sapin (2) 8 1924; wing position p. 213, LUDWIG Verh. Deutsch. zool. Ges. 34.

Stenomacra marginella var. n. *mexicana* Mexico p. 44; *gracilis* sp. n. Colombia p. 45, SCHMIDT Stett. ent. Z. 92.

Theraneis vaga Brazil p. 42, *montivaga* spp. n.; *amabilis* var. n. *taeniata* p. 43 Colombia, SCHMIDT t.c.

Wachsiella gen. n. p. 47, *horsti* sp. n. S. Celebes p. 48, SCHMIDT t.c.

PIESMIDAE, TINGIDAE.

Corythuca gossypii life-history pp. 309–319 figs., LEONARD & MILLS J. Dept. Agric. Puerto Rico 15.

Dictyonota comosa sp. n. Japan p. 66 figs., TAKEYA Mushi 4.

Eurypharsa nobilis Guér. (= *circumdatta* Blanch.) p. 226, DRAKE Ann. Mag. N.H. (10) 8.

Galeatus armatus sp. n. Japan p. 68 figs., TAKEYA Mushi 4.

Gargaphia torresi sp. n. Brazil p. 112 figs., DA COSTA LIMA Chacaras e Quintaes, Rio de Janeiro 25 1922.—*G. opima* Peru p. 513, *decoris* Brazil p. 514, spp. n., DRAKE Ann. Ent. Soc. Amer. 24.

Hanuala leinahoni see *Leptodictya*.

Leptobyrsa bradleyi sp. n. Peru p. 513, DRAKE Ann. Ent. Soc. Amer. 24.

Leptodictya grandatis sp. n. Peru p. 511, DRAKE t.c.—*L. leinahoni* Kirk. from *Hanuala* p. 226, DRAKE Ann. Mag.

N.H. (10) 8.—*L. subgen. n. Leptodictya* (type *ochropa* Stål), *Hanuala* Kirk. (type *leinahoni* Kirk.), *olyrae* sp. n. Brazil p. 121, DRAKE Bol. Mus. nac. Rio de Janeiro 7.

Leptopypha capitata in Palaearctic Asia p. 269, KIRICHENKO [KIRITSCHENKO] Ann. Carnegie Mus., Pittsburgh 20.

Monanthia salicorum from *Stephanitis*, redescription pp. 68-71, TAKEYA Mushi (J. Fukuoka Ent. Soc.) 3 1930.

Stephanitis nashi sp. n. Japan, Korea p. 54 figs., ESAKI & TAKEYA Mushi 4. —*S. globulifera* from *Tingis* p. 72 3 1930; *fasciicarina* p. 70, *vitrea* p. 74 Japan, *esakii* Formosa p. 72 4, spp. n. figs., TAKEYA Mushi. —*S. salicorum* sp. n. Japan p. 3 [in Japanese], BABA Dōsōkwaï-Jihō, Agric. Expt. Sta. Nagano-Ken 8 1925.—See *Monanthia*.

Teleonemia spectabilis Peru p. 226, *dispersa* Ecuador p. 227, spp. n. figs., DRAKE Ann. Mag. N.H. (10) 8.

Tigava semota, *bondari* spp. n. Brazil p. 405, DRAKE Proc. Hawaii. Ent. Soc. 1929-30 7.

Tingis globulifera sp. n. Japan p. 36 fig., MATSUMURA Thous. Ins. Japan 2 1905 [in Japanese]; English description p. 24 fig., MATSUMURA Ill. Thous. Ins. Jap. 1 (Rhynch.) 1930.—See *Stephanitis*.

Uhlerites latorius sp. n. Japan p. 80 figs., TAKEYA Mushi 4.

PHYMATIDAE.

Preliminary revision of ambush bugs of N. America, EVANS Ann. Ent. Soc. Amer. 24 pp. 711-736, 2 pls.

Macrocephalus key to N. American spp. p. 730, *dorannae* p. 731, *barberi* p. 733 spp. n. U.S.A. figs., EVANS Ann. Ent. Soc. Amer. 24.

Phymata key to N. American spp. p. 712, *pennsylvanica* Handl. (= *americana newyorkensis* Mel.) p. 714; *pennsylvanica americana* Mel. (= *americana wisconsinensis* Mel., *a. ottawensis* Mel.) p. 715; *fasciata* Gray (= *f. mexicana* Mel.) p. 716; *mystica* p. 717, *rossi* p. 720, *borica* p. 721, *metcalfi* p. 723, *pacifica* p. 725 (with subsp. n. *stanfordi* p. 726), *luxa* p. 728 spp. n. U.S.A. figs.,

EVANS t.c.—*P.* revision of American spp. 40 pp., characters p. 2, *erosa* DeG. restriction p. 4; *americana* n. n. for *erosa* Wolff and *e. fasciata* Handl. (with subspp. n. *wisconsinensis* p. 6, *coloradensis*, *ottawensis*, *newyorkensis* p. 7); *fasciata* subspp. n. *georgiensis* p. 9 N. America, *mexicana* Mexico p. 10; *chiriquiensis* Panama p. 18, *andina* p. 21, *lindigiana*, *peruensis* p. 33, *roqueensis* p. 34 Peru, *atra* Bolivia p. 22, *romani* Amazonas p. 23, spp. n.; *stili* n. n. for *fasciata* Stål and *erosa communis* Handl. p. 24 figs., MELIN Ark. Zool. 22A no. 2.

REDUVIIDAE.

Reduviidae of Kartabo Bartica District, Br. Guiana, HAVILAND Zoologica 7 pp. 129-154, 2 pls.

The value of the rostrum and antenna as a basis for the classification of Triatominae, PINTO Bol. biol. fasc. 19 pp. 45-146, 1 pl. 70 figs.

Catalogue of Reduviidae of Belgian Congo, SCHOUTEDEN Ann. Mus. Congo Belge Zool. (3) Sect. II 1 pp. 89-162, 1 pl.

Acanthaspis abettii (with var. n. *fusca*), *jeanneli* spp. n.; *iracunda* var. n. *frater* p. 130; *petax* var. n. *colorata* p. 131; *reuteriellus* n. n. for *reuterianus* Schout. nec Kirk. p. 132, SCHOUTEDEN Ann. Mus. Congo Belge Zool. (3) Sect. II 1.

Acanthiscium superbus sp. n. Br. Guiana p. 146 fig., HAVILAND Zoologica 7.

Afrodecius ghesquierei Belgian Congo p. 101, *jeanneli* Kamerun p. 102, spp. n., SCHOUTEDEN Ann. Mus. Congo Belge Zool. (3) Sect. II 1.

Baebius nyassanus sp. n. Nyasaland p. 113, SCHOUTEDEN t.c.

Bredo gen. n., *katangensis* sp. n. Belgian Congo p. 117, SCHOUTEDEN t.c.

Cethera picta sp. n. Belgian Congo p. 122, SCHOUTEDEN t.c.

Collartiella spinulosa p. 109, *stanleyana* p. 110, spp. n. Belgian Congo, SCHOUTEDEN t.c.

Conorhinus circummaculatus see *Neotriatoma*.

Coranus emodicus sp. n. Sikkim p. 383, KIRICHENKO Ann. Mag. N.H. (10) 7.

Debilis fraudulenta sp. n. Br. Guiana p. 147 fig., HAVILAND Zoologica 7.

Ectmetacanthus neavei sp. n. Belgian Congo p. 129, SCHOUTEDEN Ann. Mus. Congo Belge Zool. (3) Sect. II 1.

Ectomocoris burgeoni p. 139, *pretiosus* p. 141 spp. n.; *cruciger* var. n. *cuneatus*; *maculiger* var. n. *dispar* p. 140 Belgian Congo, SCHOUTEDEN t.c.

Ectrichodia collarti p. 153, *uelensis* p. 155, spp. n. Belgian Congo, SCHOUTEDEN t.c.

Ectrychotes okinawensis sp. n. Riukiu I. p. 34 fig., MATSUMURA Trans. Sapporo N.H. Soc. 1 1906.

Endochus marginalis sp. n. Riukiu I. p. 35 fig., MATSUMURA t.c.

Ghesquiereia gen. n. p. 110, *dimorpha* sp. n. Belgian Congo p. 111, SCHOUTEDEN Ann. Mus. Congo Belge Zool. (3) Sect. II 1.

Ghilianella andersoni, *brevicornis* spp. n. Br. Guiana p. 139 figs., HAVILAND Zoologica 7.

Glymmatophora horvathi, *overlaeti* spp. n. Belgian Congo p. 156, SCHOUTEDEN Ann. Mus. Congo Belge Zool. (3) Sect. II 1.

Gnathobleda maculosa sp. n. Br. Guiana p. 140 fig., HAVILAND Zoologica 7.

Hammacerus characters p. 294, *gayi* morphology p. 296 fig., PORTER Rev. chil. Hist. nat. 34 1930.

Hermilloides gen. n., *massarti* sp. n. Belgian Congo p. 135, SCHOUTEDEN Ann. Mus. Congo Belge Zool. (3) Sect. II 1.

Hermillus edo var. n. *allaeri*; *geniculatus* var. n. *capitatus*; *limbatus* sp. n. p. 134 (with var. n. *ituricus*, *uelensis* p. 135) Belgian Congo, SCHOUTEDEN t.c.

Heza angustata p. 124, *havanensis* p. 125, spp. n. Cuba, key to Cuban spp. p. 129 figs., BRUNER Bull. Brooklyn Ent. Soc. 26.

Hulstaertiella gen. n., *christyi* sp. n. Belgian Congo p. 106, SCHOUTEDEN Ann. Mus. Congo Belge Zool. (3) Sect. II 1.

Katanga colini sp. n. Belgian Congo p. 151, SCHOUTEDEN t.c.

Libyomendis lujai sp. n. Belgian Congo p. 160, SCHOUTEDEN t.c.

Lisarda vandenplasi sp. n. Belgian Congo p. 118, SCHOUTEDEN t.c.

Maraenaspis massarti sp. n. Belgian Congo; *paoliana* further description p. 159, SCHOUTEDEN t.c.

Metapterus annulipes oviposition p. 84 fig., MILLS Bull. Brooklyn Ent. Soc. 26.

Neotriatoma gen. n. for *Conorhinus circummaculatus* Stål p. 120 fig., PINTO Bol. biol. fasc. 19.

Nularda thoracica var. n. *burgeoni*, *scopsi* Belgian Congo p. 152, SCHOUTEDEN Ann. Mus. Congo Belge Zool. (3) Sect. II 1.

Okondo gen. n., *collarti* sp. n. Belgian Congo p. 207, SCHOUTEDEN Rev. Zool. Bot. afr. 20.

Oncerotrachelus magnitylus sp. n. Cuba p. 185, key p. 186, BARBER Bull. Brooklyn Ent. Soc. 26.

Oncocephalus alberti p. 114, *collarti* p. 115, *rodhaini* p. 116, spp. n. Belgian Congo, SCHOUTEDEN Ann. Mus. Congo Belge Zool. (3) Sect. II 1.

Panstrongylus a good genus p. 46, PINTO Bol. biol. fasc. 19.

Paraplynus bayeri sp. n. E. Africa p. 129, SCHOUTEDEN Ann. Mus. Congo Belge Zool. (3) Sect. II 1.

Petalochirus bergrothi sp. n. Belgian Congo p. 119, SCHOUTEDEN t.c.

Phonergates stalianus n. n. for *stali* Schout. nec Reut. p. 136, SCHOUTEDEN t.c.

Pirates argenteopilosus p. 142, *collarti* p. 143, *confusus* p. 144, spp. n. Belgian Congo, SCHOUTEDEN t.c.

Platyeris charon var. n. *keyseri* Belgian Congo p. 137, SCHOUTEDEN t.c.

Plynoides gen. n., *bredoi* (type), *collarti* spp. n. Belgian Congo p. 133, SCHOUTEDEN t.c.

Plynus maculicollis var. n. *pallida*; *vandenhoudti* sp. n. Belgian Congo p. 132, SCHOUTEDEN t.c.

Pnirontis demerarae sp. n. Br. Guiana p. 140 fig., HAVILAND Zoologica 7.

Polytoxus burgeoni, *dusoleili* p. 97, *gerardi*, *ghesquierei* p. 98, spp. n. Belgian Congo, SCHOUTEDEN Ann. Mus. Congo Belge Zool. (3) Sect. II 1.

Ptilocerus kanoi sp. n. Formosa p. 261 fig., ESAKI Annot. zool. jap. 13.

Pygolampis gerardi p. 103, *vanderysti*, *vicinus*, *wellmanni* p. 104, **spp. n.** Belgian Congo, SCHOUTEDEN Ann. Mus. Congo Belge Zool. (3) Sect. II 1.

Reduvius collarti **var. n. orientalis**; *scopsorum* **sp. n.** Belgian Congo p. 126, SCHOUTEDEN t.c.—*R. personatus* dormancy pp. 19–39 figs., READIO Ann. Ent. Soc. Amer. 24.

Repipta affinis **sp. n.** Br. Guiana p. 149 fig., HAVILAND Zoologica 7.

Rhodnius prolixus life-history, blood-sucking habits 24 pp. figs., KATAGAI Contr. Dep. Hyg. Govt. Res. Inst. Formosa no. 105 1930; excretion and excretory system pp. 411–451 figs., WIGGLESWORTH J. Exp. Biol. 8; thermal deathpoint at different humidities p. 275 fig., BUXTON J. Exp. Biol. 8.

Santosia luteola **varr. n. dispar**, *depicta* p. 151; *maynei* **sp. n.** p. 150 Belgian Congo, SCHOUTEDEN Ann. Mus. Congo Belge Zool. (3) Sect. II 1.

Sastrapada gerardi, *bocki*, *degreefi* **spp. n.** Belgian Congo p. 105, SCHOUTEDEN t.c.

Sirthenea collarti, *leontovitchi* **spp. n.** p. 146; *rapax* **var. n. concolor** p. 147 Belgian Congo, SCHOUTEDEN t.c.

Spiniger mustelinus **sp. n.** Br. Guiana p. 143 fig., HAVILAND Zoologica 7.

Thodelmus katangensis **sp. n.** Belgian Congo p. 113, SCHOUTEDEN Ann. Mus. Congo Belge Zool. (3) Sect. II 1.

Trichedocla maynei p. 127, *vanderysti* p. 128, **spp. n.** Belgian Congo, SCHOUTEDEN t.c.

Varus flavoannulatus **var. n. notatus** Belgian Congo p. 125, SCHOUTEDEN t.c.

Vescia adamantia **sp. n.** Br. Guiana p. 142 figs., HAVILAND Zoologica 7.

Watsa **gen. n.**, *lobata* (type) p. 107, *delpierrei* p. 108, **spp. n.** Belgian Congo, SCHOUTEDEN Ann. Mus. Congo Belge Zool. (3) Sect. II 1.

Zelus araneiformis, *formosus* p. 151, *kartabensis* p. 152, *pallidinervus*, *rufigeniculatus* p. 153, *tristis* p. 154, **spp. n.** Br. Guiana figs., HAVILAND Zoologica 7.

NABIDAE.

Aphelonotus key, *confusus* p. 16, *medius* p. 18, *major* p. 19 Brazil, *fraterculus* Panama p. 18, **spp. n.** figs., HARRIS Bull. Brooklyn Ent. Soc. 26.

Nabis jaczewskii p. 181, *paranensis* p. 182, **spp. n.** Parana, HARRIS Ann. Mus. zool. polon. 9.

MESOVELIIDAE.

Mesovelia mulsanti, *bisignata* discussed p. 65, JACZEWSKI Proc. Ent. Soc. Wash. 33.

Mesoveleoidea williamsi ♂ p. 64 figs., JACZEWSKI t.c.

CIMICIDAE.

Cimex lectularius effect of desiccation figs., WIGGLESWORTH Nature 127 pp. 307–308; Proc. Ent. Soc. Lond. 6 pp. 25–26; moulting of larvae pp. 53–109 figs., KEMPER Z. Morph. Oekol. Tiere 22.—*C. rotundatus* ecology, oviposition and fertility in Venezuela pp. 837–893 figs., HASE Z. Parasitenk. 3; effect of external factors on development pp. 304–309 figs., JANISCH Z. Morph. Oekol. Tiere 22.

POLYCTENIDAE.

Hesperoctenes fumarius reproductive system, metamorphosis, paedogenesis, embryology pp. 1–118 figs., HAGAN J. Morph. 51.

ANTHOCORIDAE.

Anthocoris nemorum biology pp. 53–71 figs., PESKA Prace Wydz. Chorób Roślin Panst. Inst. Nauk. Gosp. Wiejsk. Bydgoszczy no. 10.

Ectemnus pictipennis **sp. n.** Japan p. 264 fig., ESAKI Annot. zool. jap. 13.

Scoloposcelis japonicus **sp. n.** Japan p. 263 fig., ESAKI t.c.

CAPSIDAE (MIRIDAE).

Amphicapsus **gen. n.** for *Atractotomus rubrolineatus* Mats. p. 265 figs., CHINA in ESAKI Annot. zool. jap. 13.

Atractotomus hesperius Uhl. from *Dacota* p. 36; *reuteri* **n. n.** for *hesperius* Reut. nec Uhl.; *crataegi*, *cercocarpi* p. 37, *balli* p. 38 **spp. n.** U.S.A., KNIGHT Bull. Brooklyn Ent. Soc. 26.—*A. rubrolineatus* see *Amphicapsus*.

Chlamydatus pachycerus **sp. n.** Tibet p. 384, KIRICHENKO Ann. Mag. N.H. (10) 7.

Cyrtorhinus balli p. 171, *alboornatus* Florida, *pubescens* Colorado p. 172, **spp. n.**, KNIGHT Bull. Brooklyn Ent. Soc. 26.

Dacota hesperia see *Atractotomus*.

Helopeltis lemosi note p. 324, GHES-QUIÈRE Rev. Zool. Bot. afr. 20.

Lygus pabulinus morphology, biology pp. 160-166 figs., AUSTIN J. S.-E. Agric. Coll. Wye no. 28.—*L. pratensis* hibernation, spring oviposition pp. 149-152 figs., AUSTIN Ent. Mon. Mag. 67.

Paracarnus myersi sp. n. Cuba p. 286 figs., CHINA Ann. Mag. N.H. (10) 8.

Platylgus vanduzeei sp. n. U.S.A. p. 129 fig., USINGER Pan-Pacific Ent. 7.

Plesiocoris rugicollis biology, morphology pp. 153-159 figs., AUSTIN J. S.-E. Agric. Coll. Wye no. 28.

Sahlbergella singularis biology pp. 81-98 figs., BREDO Bull. Agric. Congo Belge 22.

Tancredus viridis sp. n. Formosa p. 187 [English description], SHIRAKI Spec. Rep. Formosa Agric. Expt. Sta. 8 1913.

Thaumaturgus pulcher sp. n. Ceylon p. 117 fig., HENRY Spolia zeylan. 16.

VELIIDAE.

Rhagovelia reposita sp. n. Guatemala p. 33; *hirtipes* macropterous male p. 35, DRAKE & HARRIS Pan-Pacific Ent. 8.

Velia myersi sp. n. Trinidad p. 172 fig., HUNGERFORD Ann. Mag. N.H. (10) 7.

GERRIDAE.

Caprivia subgen. n. see *Rhagadotarsus*.

Gerris key to French spp. p. 57 figs., PÉNEAU Bull. Soc. Sci. nat. Ouest Fr. (4) 10.

Halobates sericeus habits pp. 457-459 fig., HADDEN Proc. Hawaii. Ent. Soc. 1929-30 7.

Limnogonus Stål (= *Neogerris* Mats.) p. 221, ESAKI Bull. Biogeogr. Soc. Japan 1 1930.

Neogerris see *Limnogonus*.

Rhagadotarsus (*Caprivia* subgen. n.) *hutchinsoni* sp. n. S. Africa p. 408 fig., CHINA Ann. Mag. N.H. (10) 8.

Rheumatobates rileyi morphology, biology pp. 433-446 figs., SILVEY Pap. Mich. Acad. Sci. 13.

Tenagogonus celocis sp. n. Brazil p. 267, DRAKE & HARRIS Ann. Carnegie Mus., Pittsburg 20.

GELASTOCORIDAE.

Matinus americanus new to Argentina p. 329, DE CARLO Rev. Soc. ent. argent. 3.

Mononyx peruvianus new to Argentina p. 329, DE CARLO t.c.

NAUCORIDAE.

Aphelocheirus nawae p. 56, *vittatus* p. 57, *shirakii* p. 58, spp. n. Japan figs., MATSUMURA J. Sapporo Coll. Agric. 2 1905.—*A. aestivalis* ecology, biology pp. 1-19 figs., LARSÉN Int. Rev. Hydrobiol. 26; biology p. 92 fig., SCHREITMÜLLER Aquarium 1931.

Cryphocricus barozzii new to Argentina p. 330, DE CARLO Rev. Soc. ent. argent. 3.

NEPIDAE.

Nepa cinerea morphology pp. 1067-1136 figs., HAMILTON Proc. Zool. Soc. Lond. 1931; spermatogenesis pp. 611-654 figs., STEOPOE Ann. sci. Univ. Jassy 16.

Ranatra filiformis biology pp. 385-392 figs., HOFFMANN Lingnan Sci. J. 9.

BELOSTOMATIDAE.

Lethocerus bruchi sp. n. Brazil; *del-pontei* further description p. 217, DE CARLO Rev. Soc. ent. argent. 3.

NOTONECTIDAE.

Buenoa arizonis further description figs., BARE Pan-Pacific Ent. 7.

Enithares sinica, indica life-history p. 432 fig., HOFFMANN Lingnan Sci. J. 9.

Notonecta spp. morphology, biology pp. 219-247 figs., LARSÉN Ent. Tidskr. 51 1930.—*N. amplifica* p. 437, *immediata* p. 438, spp. n. E. Siberia figs., KIRICHENKO Annu. Mus. zool. Acad. Lenin-grad 31.—*N. glauca* orientation pp. 392-404 figs., SCHULZ Z. vergl. Physiol. 14.

PLEIDAE.

Plea indistinguenda sp. n. Japan p. 59 fig., MATSUMURA J. Sapporo Coll. Agric. 2 1905.—*P. minutissima* biology p. 91 fig., SCHREITMÜLLER Aquarium 1931.

CORIXIDAE.

Corixidae of the Hamburg Zool. Mus., JACZEWSKI Mitt. zool. Mus. Hamburg 44 pp. 140-148, 10 figs.

List of known Mexican Corixidae, JACZEWSKI Ann. Mus. zool. polon. 9 p. 223.

Notes on Corixidae of Halle Museum, LUNDBLAD Zool. Anz. 96 pp. 85-87.

Some Corixidae new to Mark Brandenburg, SIEFKE Mitt. deuts. ent. Ges. 2 pp. 56-67.

Arctocorisa antiquensis see *Centrocorisa kollari*.

Arctocorisa johanseni sp. n. Manitoba p. 238 figs., WALLEY Canad. Ent. 63.

Centrocorisa kollari Fieb. (= *Arctocorisa antiquensis* Torre Bueno) p. 147, JACZEWSKI Ann. Mus. zool. polon. 9.

Corisella mercenaria further description; *texcocana* p. 202, *tarascana* p. 205, spp. n. Mexico figs., JACZEWSKI t.c.

Corixa nigroventralis p. 60 *takasa-goensis* p. 60, *toyohirae* p. 61, *parvula* p. 62, *hokkensis* p. 64, *miyakei* p. 64, spp. n. Japan figs., MATSUMURA J. Sapporo Coll. Agric. 2 1905.—*C. guatemalensis* see *Pseudocorixa*.

Graptocorixa melanogaster further description, synonymy p. 150; *gerhardi* further description p. 191 figs., JACZEWSKI Ann. Mus. zool. polon. 9.

Krizousacorixa femorata further description p. 207; *azteca* sp. n. Mexico p. 211 figs., JACZEWSKI Ann. Mus. zool. polon. 9.

Micronecta 4-vittata p. 62, *guttata* p. 63, spp. n. Japan, MATSUMURA J. Sapporo Coll. Agric. 2 1905.

Morphocorixa subgen. n. see *Sigara*.

Pseudocorixa gen. n. for *Corixa guatemalensis* Champ. p. 220, further description p. 221 figs., JACZEWSKI Ann. Mus. zool. polon. 9.

Ramphocorixa acuminata further description p. 195, JACZEWSKI t.c.

Sigara wahlbergi Lund. (= *contortuplicata* Hutch. nec Kirk.) & *altavandi* Kirk. synonymy and identity discussed p. 148; *forciceps* further description p. 153; (*Morphocorixa* subgen. n.) *lundbladi* sp. n. Mexico p. 197 figs., JACZEWSKI t.c.—*S. rubyi* further description p. 145; *rehi* sp. n. Argentina p. 147 figs., JACZEWSKI Mitt. zool. Mus. Hamburg 44.

Tenagobia costaricana sp. n. Costa Rica p. 144 figs., JACZEWSKI t.c.

Trichocorixa revision pp. 87-94 figs., LUNDBLAD Zool. Anz. 96.—*T. wallengreni*, *verticalis* distribution in salt water p. 573, HUTCHINSON Amer. Nat. 65.—*T. parvula* further description; *mariae* Champ. possibly synonym of *wallengreni* Stål p. 214 figs., JACZEWSKI Ann. Mus. zool. polon. 9.

Trichocorixella gen. n. p. 217, *wolskii* sp. n. Mexico p. 218 figs., JACZEWSKI t.c.

Homoptera.

Notes on Auchenorrhynchous Homoptera in England, DUFFIELD Ent. Mon. Mag. 67 pp. 37-38.

List of Homoptera from Central Asia collected by Kaschkarov, KUZNETZOV Bull. Univ. Asie centr. 18 1929 pp. 29-35.

Observations on some spp. of Cicadoidea and Fulgoroidea in the Coimbra Museum collection, DE SEABRA Arq. Secc. Biol. Parasit. Coimbra 1 1930 pp. 307-359.

Biology of German Homoptera, WEBER Biol. Tiere Deutsch. Teil 31 pp. 71-208, 112 figs.

CICADIDAE.

Notes on the distribution of Cicadidae in the Japanese Empire, KATÔ Bull. Biogeogr. Soc. Japan 2 1930 pp. 36-76, 3 figs.

List of Cicadidae of Korea, MORI J. Chosen Nat. Hist. Soc. 12 pp. 10-24, 2 pls.

Adeniana bourliieri sp. n. Hoggar p. 150 fig., DE BERGEVIN Bull. Soc. Hist. nat. Afr. N. 22.

Chosenosemia gen. n. *souyoensis* sp. n. Korea p. 52 [in Japanese], DOI J. Chosen Nat. Hist. Soc. 12.

Cosmopsaltria ogasawarensis p. 29, *oshimensis* p. 30, spp. n. Riukiu I. figs., MATSUMURA Trans. Sapporo N.H. Soc. 1 1906.

Cryptotympana coreana larvae, adults in pp. 167-173 [in Japanese], KATÔ & SUGANUMA Kontyû, Tokyo 5.

Euterpnosia swishana p. 71, *gina* p. 72, spp. n. Formosa, KATÔ Bull. Biogeogr. Soc. Japan 2 1930.

Lethama locusta sound organs pp. 430-436 figs., McCANN J. Bombay N.H. Soc. 35.

Magiccica septendecim biology Kansas pp. 53-58 fig., BEAMER J. Kansas Ent. Soc. 4.

Nahasemia gen. n. for *Prasia kuroiwae* Mats. p. 1 fig., MATSUMURA Ill. Thous. Ins. Jap. 1 (Rhynch.) 1930.

Oncotympana nigrodorsalis sp. n. Korea p. 18 [Japanese description], MORI J. Chosen Nat. Hist. Soc. 12.

Platypleura octoguttata suctorial apparatus pp. 12-55 figs., MURTI Half Yearly J. Mysore Univ. 3 1929.

Pomponia polei sp. n. Ceylon p. 118 fig., HENRY Spolia zeylan. 16.

Prasia kuroiwae ♂ p. 73, KATô Bull. Biogeogr. Soc. Japan 2 1930.—See *Nahasemia*.

Tanna auripennis sp. n. Formosa p. 69, KATô Bull. Biogeogr. Soc. Japan 2 1930.

Terpnosia vacuna Oliv. (= *kawamurae* Mats.) p. 5 fig., MATSUMURA Ill. Thous. Ins. Jap. 1 (Rhynch.) 1930.

Tibicen pruinosa emergence p. 51, BEAMER J. Kansas Ent. Soc. 4.—*T. intermedia* p. 13, *dolichoptera* p. 14, spp. n. Korea [Japanese descriptions], MORI J. Chosen Nat. Hist. Soc. 12.

Tibicina zeyara sp. n. Centr. Asia p. 15; *lacteipennis* p. 16, *semenovi* p. 17 further descriptions, KUZNETZOV Konowia 10.

Fulgoroidea.

Intracellular symbiosis in Fulgorids, ŠULO Biol. Spisy 3 1924 pp. 13-86, 56 figs.

FULGORIDAE.

Lycorma delicatula life-history pp. 33-35, CHU Peking Nat. Hist. Bull. 5 pt. 2.

Pristipsopsis serrata larva, nymph pp. 150-156 figs., PINTO DA FONSECA Rev. Ent. S. Paulo 1.

EURYBRACHIDAE.

Microeurybrachys gen. n. p. 312, *vitrifrons* sp. n. S. Africa p. 313 fig., MUIR Ann. Mag. N.H. (10) 7.

DICTYOPHARIDAE.

Brachytaosa gen. n. p. 474, *venturii* sp. n. Argentina p. 475 fig., MUIR Proc. Hawaii. Ent. Soc. 1929-30 7.

Cladypha scriptiventris see *Taosa*.

Dichoptera herbida see *Taosa*.

Dictyophara ishidae p. 55, *tengi* p. 56, spp. n. Japan figs., MATSUMURA Thous. Ins. Japan 2 1905.—*D. okinawensis* sp. n. Riukiu I. p. 31 fig., MATSUMURA Trans. Sapporo N.H. Soc. 1 1906.—*D. sororcula* see *Taosa*; *emarginata* see *Neotangia* (Tropiduchidae).

Hesticus transferred to Lophopidae.

Lappida harderi sp. n. Colombia p. 74, SCHMIDT Wien. ent. Ztg. 48.

Taosa characters p. 469, *viridis*, *bimaculifrons* p. 470, *lineatirons* p. 471, *pseudoscriptiventris* p. 472, *rufa* p. 473 Brazil, *paraherbida* Br. Guiana p. 474, *holmgreni* Camory spp. n.; *scriptiventris* Wlk. from *Cladypha* p. 472; *sororcula* Berg. from *Dictyophara* p. 473; *herbida* Wlk. from *Dichoptera* p. 474 figs., MUIR Proc. Hawaii. Ent. Soc. 1929-30 7.

MEENOPLIDAE.

Nisia buxtoni sp. n. New Hebrides p. 77 fig., MUIR Rec. Aust. Mus. 18.

CIXIIDAE.

Aka tasmani p. 63, *hardyi* p. 64, spp. n. Tasmania fig., MUIR Rec. Aust. Mus. 18.

Cixius pilosus f. n. *nigrita* Germany p. 158, HAUPT Mitt. deuts. ent. Ges. 2.

Iolania vittipennis p. 66, *clypealis* p. 67, spp. n. Queensland fig., MUIR Rec. Aust. Mus. 18.

Nesocharis v-nigra sp. n. New Hebrides p. 68, MUIR t.c.

Oliarus doddi p. 64, *hackeri* p. 65, spp. n. Queensland figs., MUIR t.c.

Tarberus jacobii sp. n. New Caledonia p. 67 figs., MUIR t.c.

DELPHACIDAE.

Bidis tripunctata sp. n. Botel Tobago I., Formosa p. 165 fig., KATô Bull. Biogeogr. Soc. Japan 2.—*B. vittata* sp. n. Riukiu I. p. 31 fig., MATSUMURA Trans. Sapporo N.H. Soc. 1 1906.

Columbisoga filistylus sp. n. Bolivia p. 212 fig., MUIR Ent. Tidskr. 51 1930.

Delphacodes platystylus sp. n. Argentina p. 214 fig., MUIR t.c.

Eucanyra romani p. 207, *taracuae* p. 208, spp. n. Brazil figs., MUIR t.c.

Kelisia holmgreni sp. n. Bolivia p. 213, MUIR t.c.

Malaxa microstylus sp. n. Bolivia p. 211 figs., MUIR t.c.

Metropis mayri, *flavipes* synonymy p. 156, HAUPT Mitt. deuts. ent. Ges. 2.

Platysystatus gen. n. p. 208, *brunneus* sp. n. Argentina p. 210 figs., MUIR Ent. Tidskr. 51 1930.

Pseudomacrocorupha gen. n. p. 210, *wagneri* sp. n. Argentina p. 211 figs., MUIR t.c.

Stenocranus minutus, *major*, *fuscovittatus* discussed pp. 151-154 figs., HAUPT Mitt. deuts. ent. Ges. 2.

Stenosystatus gen. n. p. 214, *anonymi* sp. n. locality unknown p. 215, MUIR Ent. Tidskr. 51 1930.

Ugyops longiceps Queensland p. 69, *musgravei* Lord Howe I., *sulcata* p. 70, *buxtoni* p. 71 New Hebrides, spp. n. figs., MUIR Rec. Aust. Mus. 18.

LOPHOPIDAE.

Carrionia gen. n. p. 476, *flavicollis* sp. n. Ecuador p. 477, MUIR Proc. Hawaii. Ent. Soc. 1929-30 7.

Cladodiptera rufimanus see *Hesticus*.

Hesticus transferred from Dictyopharidae p. 477, *rufimanus* Wlk. from *Cladodiptera*; *sanguinifrons* sp. n. Ecuador p. 480 figs., MUIR Proc. Hawaii. Ent. Soc. 1929-30 7.

Painella gen. n. p. 77, *harti* (type) p. 78, *simmondsi* p. 80 spp. n. Solomon Is. figs., MUIR Rec. Aust. Mus. 18.

TROPIDUCHIDAE.

Alcestis costalis p. 475, *romani* p. 476, spp. n. Brazil figs., MUIR Proc. Hawaii. Ent. Soc. 1929-30 7.

Amaclardea gen. n. p. 301, *gowdeyi* sp. n. Jamaica p. 302, MUIR Ann. Mag. N.H. (10) 7.

Catulliararia gen. n., *njalae* (type) Sierra Leone p. 300, *ugandae* Uganda p. 301, spp. n. figs., MUIR t.c.

Daradax grandis sp. n. Siam p. 297 fig., MUIR t.c.

Epورا onukii sp. n. Japan p. 59 fig., MATSUMURA Thous. Ins. Japan 2 1905.

Garumna melichari see *Paragarumna*.

Kallitambinia gen. n., *australis* sp. n. Queensland p. 74, MUIR Rec. Aust. Mus. 18.

Lavora gen. n. p. 75, *ricanoides* sp. n. Solomon Arch. p. 76 figs., MUIR t.c.

Leptotambinia gen. n. p. 164, *viridinnervis* sp. n. Botel Tobago I., Formosa p. 165 fig., KATô Bull. Biogeogr. Soc. Japan 2.

Mulucha variegata sp. n. Gold Coast p. 298, MUIR Ann. Mag. N.H. (10) 7.

Neommatissus Muir (= *Trobolophya* Mel., *Stacotoides* Dist.), *bakeri* sp. n. Philippines p. 306, MUIR t.c.

Neotangia munda sp. n. Br. Guiana p. 302; *emarginata* Uhl. from *Dictyophara* p. 303, MUIR t.c.

Numicia viridis (with var. n. *infuscata*) S. Africa, *nitida* Uganda, spp. n. p. 299 fig., MUIR t.c.

Ommatissus bimaculatus sp. n. N. India p. 310, MUIR t.c.

Paragarumna gen. n. p. 303, *pseudolepida* (type) sp. n. Siamese Malay States p. 304; *melichari* Bak. from *Garumna* p. 305 figs., MUIR t.c.

Pseudoparicana sanguinifrons sp. n. New Guinea p. 75, MUIR Rec. Aust. Mus. 18.

Rhinodictya granulata Fiji Is., *buxtoni* New Hebrides, spp. n. p. 73, MUIR t.c.

Rotunosa intermedia sp. n. Honduras p. 306, MUIR Ann. Mag. N.H. (10) 7.

Stacotoides see *Neommatissus*.

Stenoconchyoptera gen. n. p. 307, *darwini* sp. n. S. Africa p. 308 figs., MUIR Ann. Mag. N.H. (10) 7.

Tambinia zonata sp. n. S. India p. 303, MUIR t.c.

Tangidia uhleri sp. n. Grenada p. 305, MUIR t.c.

Thaumantia insularis sp. n. Solomon Is. p. 74, MUIR Rec. Aust. Mus. 18.

Trobolophya see *Neommatissus*.

Turneriola breviceps p. 308, *hirsuta* p. 309, spp. n. S. Africa, MUIR Ann. Mag. N.H. (10) 7.

ACHILIDAE.

Catonia haitiensis sp. n. Haiti p. 14 fig., DOZIER Amer. Mus. Nov. no. 510.

Rhotala niisimae sp. n. Japan p. 62 fig., MATSUMURA Thous. Ins. Japan 2 1905.

DERBIDAE.

Lamenia epiensis sp. n. New Hebrides p. 72 figs., MUIR Rec. Aust. Mus. 18.

ISSIDAE.

Buca simplex further description p. 311 figs., MUIR Ann. Mag. N.H. (10). 7.

Monteirina gen. n., *horni* sp. n. Transvaal p. 255, LALLEMAND Konowia 10.

Sarima matsumurai n. n. for *formosanum* Mats. nec Schum. p. 268, ESAKI Annot. zool. jap. 13.

Thionia gibbicollis Haiti p. 17, *borinquensis* Porto Rico p. 18, spp. n. figs., DOZIER Amer. Mus. Nov. no. 510.

RICANIIDAE.

Aprivesa varipennis sp. n. W. Australia p. 83, MUIR Rec. Aust. Mus. 18.

Plestia viridis p. 81, *minuta*, *trimaculifrons* p. 82, spp. n. New Hebrides figs., MUIR t.c.

Ricania luzai, *burgeoni* spp. n. Belgian Congo p. 303, LALLEMAND Rev. Zool. Bot. afr. 20.—*R. formosana* sp. n. Formosa p. 269, ESAKI Annot. zool. jap. 13.

Varciella apicalis sp. n. New Guinea p. 75, SCHMIDT Wien. ent. Ztg. 48.

FLATIDAE, ACANALONIIDAE.

Colpoptera clerodendri p. 19, *insularis* Haiti, *nana* Dominican Rep. p. 20, *maculata* Porto Rico p. 21, spp. n. figs., DOZIER Amer. Mus. Nov. no. 510.

Leptoflata gen. n., *seydeli* sp. n. Belgian Congo p. 302, LALLEMAND Rev. Zool. Bot. afr. 20.

Neocolpoptera gen. n. (Flatidae), *portoricensis* (type) p. 22, *monticolens* p. 24, spp. n. Porto Rico figs., DOZIER Amer. Mus. Nov. no. 510.

Ormenis coffeacola sp. n. Haiti p. 17 fig., DOZIER t.c.

CERCOPIDAE.

Notes on and keys to European Cercopidae, HAUPT Ent. Jahrb. 1919 pp. 152-172, 8 figs.

Monograph of Cercopinae of Japan, MATSUMURA J. Sapporo Coll. Agric. 2 1903 pp. 15-52.

Aphrophora putealis p. 30, *pectoralis* p. 34, *costalis* p. 35, *ishidae* p. 36, *rugosa* p. 37, *vittata* p. 38, *obtusa* p. 39, *maritima* p. 41, *stictica* p. 42, *niijimae* p. 43, spp. n. Japan, MATSUMURA J. Sapporo Coll. Agric. 2 1903.—*A. salicis* varr. n. *unicolor forneri*; *grisea* sp. n. (also p.

171) Austria p. 165, HAUPT Ent. Jahrb. 1919.—*A. permutata* moults p. 49, DOERING J. Kansas Ent. Soc. 4.

Aufidus wagneri sp. n. Borneo p. 165, LALLEMAND Folia zool. hydrobiol. 2.

Clastoptera laenata in N. America p. 50; *xanthocephala* biting man p. 51, DOERING J. Kansas Ent. Soc. 4.

Clovioa quadrilineata sp. n. Kamerun p. 326, LALLEMAND Rev. Zool. Bot. afr. 20.

Cosmoscarta uchidae sp. n. Riukiu I. p. 30 fig., MATSUMURA Trans. Sapporo N.H. Soc. 1 1906.—*C. palopona*, *orchyomonti* spp. n. Celebes p. 75, LALLEMAND Bull. Ann. Soc. ent. Belg. 71.—*C. fumosa* var. n. *obscura* India p. 165, LALLEMAND Folia zool. hydrobiol. 2.

Eoscarta bicolor see *Keducarta*.

Euclovioa gen. n., *okadae* sp. n. Japan p. 25, MATSUMURA J. Sapporo Coll. Agric. 2 1903.

Gynopygoplas schultzei sp. n. Philippines p. 64, SCHMIDT Ent. Rdsh., Stuttgart 48.

Haematoloma gen. n. for *Trispilaema dorsata* Germ. p. 158 fig., HAUPT Ent. Jahrb. 1919.

Hindoloides rubrodorsum sp. n. Japan p. 266 fig., ESAKI Annot. zool. jap. 13.

Homalostethus luzonensis sp. n. Philippines p. 165, LALLEMAND Folia zool. hydrobiol. 2.

Keducarta gen. n. for *Eoscarta bicolor* Bredd., scope p. 66, SCHMIDT Wien. ent. Ztg. 48.

Lepyronia gibbosa walking habits p. 50, DOERING J. Kansas Ent. Soc. 4.

Monecphora incarnata description corrected p. 168, LALLEMAND Folia zool. hydrobiol. 2.

Orthorapha cassidioides var. n. *nigra* Brazil p. 66, SCHMIDT Wien. ent. Ztg. 48.

Ptyelus fuscus p. 50, *nigropectus* p. 51, spp. n. Japan, MATSUMURA J. Sapporo Coll. Agric. 2 1903.

Rhinaulax apicalis sp. n. Japan p. 19, MATSUMURA t.c.

Sphenorhina hebes var. n. *rubens* Peru; *pubescens* var. n. *aequatoriana* Ecuador; *rubra* var. n. *obliterata*; *cyaneus* Colombia p. 167, *sericea* Brazil p. 168 spp. n.; *modesta* description corrected p. 169, LALLEMAND Folia zool. hydrobiol. 2.

Thoodzata botelensis sp. n. Botel Tobago I., Formosa p. 163 fig., KATÔ Bull. Biogeogr. Soc. Japan 2.

Tomaspis saccharina incubation of eggs, URICH & PICKLES Min. Proc. Frogh. Invest. Comm. pt. 18 1930 pp. 64-70, pt. 20 pp. 253-255; oviposition pp. 461-468 fig., PICKLES Bull. Ent. Res. 22; ecology Trinidad pp. 127-130, note on generic name p. 187, PICKLES Trop. Agriculture 8.

Triecphora xanthospila var. n. obliterationa Kamerun; *fortunata* p. 166, *nigripes* p. 167 Brazil spp. n., LALLEMAND Folia zool. hydrobiol. 2.

Trispilaema dorsata see *Haematoloma*.

MEMBRACIDAE.

Membracidae of China, FUNKHOUSER Lingnan Sci. J. 7 pp. 475-479, 1 pl.

Classification of New World Membracidae, GODING J. N.Y. Ent. Soc. 39 pp. 299-313, 606.

Acanthophyes walkeri n. n. for *chloroticus* Buckt. preocc. p. 338, FUNKHOUSER Gen. Catal. Hemipt. fasc. 1 1927.

Acanthucus pyramidatus Tasmania p. 310, *carinatus* S. Australia p. 311, spp. n. figs., FUNKHOUSER Rec. Austr. Mus. 15 1927.

Centrotypus nigris sp. n. New South Wales p. 306 figs., FUNKHOUSER t.c.—*C. parvus* see *Cryptoparma*.

Centruchoides oppugnans Wlk. from *Tolania* p. 935; *perdita* Am. and Serv. from *Ledra* p. 936 figs., GODING Ann. Ent. Soc. Amer. 24.

Ceresa bubalus first record in Europe p. 92, HORVATH Bull. Soc. ent. Fr. 1931.

Cryptoparma gen. n. for *Centrotypus parvus* Funk. p. 313, GODING J. N.Y. Ent. Soc. 39.

Daunus gracilis see *Sinenodus*.

Ebhul notatus see *Ebhuloides*.

Ebhuloides gen. n. for *Ebhul notatus* Funk. p. 302, GODING J. N.Y. Ent. Soc. 39.

Emphusis bicornis sp. n. New Guinea p. 305 figs., FUNKHOUSER Rec. Austr. Mus. 15 1927.

Eufairmairia laticornis sp. n. Papua p. 307 figs., FUNKHOUSER t.c.

Heranice planeflava generic position discussed p. 67, key p. 68, *mitloglypta* subssp. n. *obscura* p. 70, *evanescens* Colombia; *excisata* sp. n. Ecuador (with subssp. n. *nigripes*, *affinis* Colombia) p. 71, SCHMIDT Wien. ent. Ztg. 48.

Leptocentrus gracilis sp. n. New South Wales p. 307 figs., FUNKHOUSER Rec. Austr. Mus. 15 1927.

Membracis schmidti n. n. for *trimaculata* Schmidt nec Fairm. p. 53, FUNKHOUSER Gen. Catal. Hemipt. fasc. 1 1927.

Nessorhinus graciloides sp. n. Porto Rico p. 3 fig., DOZIER Amer. Mus. Nov. no. 510.

Otinotoides brunneus sp. n. Solomon Is. p. 309 figs., FUNKHOUSER Rec. Austr. Mus. 15 1927.

Phaulocentrus Fowl. distinct from *Microcentrus* p. 936, GODING Ann. Ent. Soc. Amer. 24.

Sextius projectus sp. n. W. Australia p. 312 figs., FUNKHOUSER Rec. Austr. Mus. 15 1927.

Sinenodus gen. n. for *Daunus gracilis* God. p. 311, GODING J. N.Y. Ent. Soc. 39.

Tolania walkeri n. n. for *fasciatus* Wlk. List. Hom. B.M. suppl. p. 161 nec p. 1147, GODING Ann. Ent. Soc. Amer. 24.—*T. oppugnans* see *Centruchoides*.

Tragopa parishii n. n. for *maculata* Funkh. nec Stål; *peruviana* n. n. for *brunnea* Funkh. preocc. p. 177; *bucktoni* n. n. for *nitida* Funkh. nec Germ. p. 172, FUNKHOUSER Gen. Catal. Hemipt. fasc. 1 1927.

Tricentrus pinguidorsis sp. n. New South Wales p. 308 figs., FUNKHOUSER Rec. Austr. Mus. 15 1927.

Xiphidia see *Xiphistoides*.

Xiphistoides n. n. for *Xiphidia* God. nec Dall. p. 936, GODING Ann. Ent. Soc. Amer. 24.

JASSIDAE (CICADELLIDAE).

Leafhoppers of Mt. Marcy and Mt. Macintyre, Essex Co., N.Y., BUYS J. N.Y. Ent. Soc. 39 pp. 139-143.

Characters and biology of the most important leafhoppers affecting the apple, DELONG J. Econ. Ent. 24 pp. 1214-1222, 3 figs.

Morphology and biology of the Eury-melinae, EVANS Proc. Linn. Soc. N.S.W. 66 pp. 210-226 figs.

Revision of Palaearctic and Oriental Typhlocybid genera, I (list of spp. in Japan and Formosa p. 60), MATSUMURA Ins. mats. 6 pp. 55-91, 2 pls. 6 figs.

Acinopterus fuscifrons, *rubrus* p. 59, *longipennis* spp. n. U.S.A.; *elongatus* p. 60, *parvulus* p. 61 ♀ ♀, LAWSON J. Kansas Ent. Soc. 4.

Adelungia systematic notes on Asiatic spp. pp. 102-106, *breviceps* sp. n. Transcaspia p. 103, key p. 106 figs., KUZNETZOV Ent. NachrBl. 5.

Agallia spp. external characters pp. 377-384 figs., DeLONG & DAVIDSON Ohio J. Sci. 31.—*A. pteridis* sp. n. Japan p. 68 fig., MATSUMURA Thous. Ins. Japan 2 1905.

Akotettix gen. n., *akonis* sp. n. Japan p. 77 figs., MATSUMURA Ins. mats. 6.

Alebra albostriatella f. n. *costatella* Japan p. 67 fig., MATSUMURA t.c.

Alebroides gen. n., *marginatus* (type), *boninensis* p. 68, *flavifrons*, *hachijonis*, *akashianus* p. 69, *shokanus*, *toroensis* p. 70, *iwatensis* p. 71, spp. n. Japan and Formosa figs., MATSUMURA t.c.

Aligia key to N. American spp., *descripta* p. 119, *turbinata* p. 120, *chiricana*, *santana* p. 121 spp. n.; *manitou* var. n. *dellana* p. 120 U.S.A., BALL Pan-Pacific Ent. 7.

Athysanopsis gen. n., *salicis* sp. n. p. 65 fig., MATSUMURA Thous. Ins. Japan 2 1905.

Athysanus acuminatus, *litigiosus* see *Menosoma*.

Bandara gen. n. for *Eutettix johnsoni* Van D. p. 93, BALL Bull. Brooklyn Ent. Soc. 26.

Bythoscopus mali sp. n. Japan p. 67 fig., MATSUMURA Thous. Ins. Japan 2 1905.

Chlorita boninensis, *flavovittella* p. 86, *flaxinella* [? *flaxinicola* p. 62], *hakonella* p. 87, *hiromichii*, *kisuji* p. 88, *limbifera*, *nopporensis*, *okubonis*, *pirisuga* p. 89, *todo* Japan, *shokella* p. 90, *formosicola* p. 87 Formosa, *koreana* Corea p. 88, spp. n. figs., MATSUMURA Ins. mats. 6.—*C. flavescens*, *solani*, *facialis* see *Empoasca*.

Cicadella dubiosa p. 5, *hispaniola* p. 8, spp. n. Haiti; *constans* further description p. 6 figs., DOZIER Amer. Mus. Nov. no. 510.

Cicadula sexnotata salivary glands, alimentary tract pp. 39-58 figs., DOBROSKY Contrib. Boyce Thompson Inst. 3.—*C. punctifrons* p. 39, *sexnotata* p. 40 characters of American spp.; *divisa* discussed; *snowi* p. 41, *obsoleta* p. 42, *major* p. 43, *borealis*, *osborni* p. 45 U.S.A. spp. n. figs., DORST J. Kansas Ent. Soc. 4.

Cloanthanus gen. n. for *Platymetopius angustatus* Osb. p. 219, BALL Canad. Ent. 63.

Convelinus gen. n. for *Platymetopius nigricollis* Ball p. 220; *analis* var. n. *castranus* U.S.A. p. 228, BALL t.c.

Deltocephalus lineatifrons sp. n. Colorado p. 432 figs., OMAN J. Wash. Acad. Sci. 21.—*D. stramineus* see *Epiacanthus*.

Deltopinus gen. n. for *Platymetopius nigriviridis* Ball p. 218, BALL Canad. Ent. 63.

Dicraneura dorsalis sp. n. Japan p. 267 fig., ESAKI Annot. zool. jap. 13.

Drylix truncatus ♀ p. 587; *medianus* p. 588, *utahnus* p. 590, spp. n. figs., LAWSON Ann. Ent. Soc. Amer. 24.—*D. truncatus* ♀ p. 433, OMAN J. Wash. Acad. Sci. 21.

Empoasca spp. feeding habits pp. 267-285 figs., SMITH & POOS J. Agric. Res. 43.—*E. fabae* comparison of oviposition and development on different food plants pp. 361-371 figs., POOS & SMITH J. Econ. Ent. 24.—*E. lembifera* (non descr.) p. 61, *aino* p. 80, *buzensis*, *okubella* p. 81 (*ogikubella* p. 61), *polyphemus*, *rubriceps* p. 82, *rubrifrons* Japan, *shirakiella* p. 83, *arisona* p. 81 Formosa, spp. n., figs., MATSUMURA Ins. mats. 6.—*E.* revision of American spp. north of Mexico 59 pp., characters p. 9, keys p. 14 etc., list p. 57, *acodens*, *pectinata* p. 16, *trilobata* p. 17, *incida* p. 21, *patula* p. 22 (with var. n. *magna* p. 23), *saluta* p. 24, *digita* p. 26, *copula* p. 27, *adunca* p. 31, (*Hebata* subgen. n.) p. 32, *recurvata* p. 38, *rubida* p. 39, *bifurcata* p. 40, *pallidula* p. 42, *hamata* (with var. n. *albonotata*), *filamenta* p. 43 (with var. n. *abbreviata*), *vincula* p. 44, *deluda*, *cerea* p. 46, *abrupta*, *erigeron* p. 48, *arida* p. 49, *solana*, (*Idona* subgen. n.) p. 50, *panda*, *junipera* p. 51, *elongata*, *rufa*

p. 53, *tincta* p. 54, *spp. n.* N. America figs., DeLONG Tech. Bull. U.S. Dept. Agric. 231.—*E. spp.* critical notes p. 64, last abdominal segment in male p. 66, *dolichi* Italian Somaliland p. 68, *virium* p. 69, *decipiens* p. 74 Italy, *spp. n.*; *facialis* Jac. p. 71, *flavescens* F. (Tullgren) p. 73 male genitalia figs., PAOLI Proc. verb. Soc. tosc. Sci. Nat. 39 1930.

Epiacanthus gen. n. for *Deltocephalus stramineus* Mots. p. 353, MATSUMURA Termész. Füz., Budapest 25 1902.

Erythria zonata see *Naratettix*.

Erythroneura lubiae sp. n. Sudan p. 53 figs., CHINA Bull. Ent. Res. 22.—*E. comes* relation of temperature and rainfall to outbreaks pp. 238-259, EYER Ann. Ent. Soc. Amer. 24.—*E. gillettei* p. 128, *noncuspidis* p. 129, *stephensoni*, *contracta* p. 130, *curvata* p. 132, *impar*, *brevipes* p. 133, *nigriventer*, *bifida* p. 134, *spinifera*, *triangulata* p. 240, *bispinosa*, *calamitosa* p. 241, *uncinata*, *parvipes* p. 242, *turgida* p. 243, *teres* p. 268, *clavipes*, *penesica* p. 269, *rostrata* p. 270, *tantilla*, *interna* p. 285, *dira*, *concnica* p. 286, *mensa*, *arta* p. 287, *rotunda*, *abjecta* p. 288, *externa* p. 289 *spp. n.* U.S.A.; *parallela* McA. a sp. p. 243, BEAMER Canad. Ent. 63.

Eurymela distincta morphology pp. 217-225 figs., EVANS Proc. Linn. Soc. N.S.W. 66.

Eutettix goniana p. 1, *glennana* p. 2, *spp. n.* Arizona, BALL Florida Ent. 15.—*E. mildredae* and others see *Norvelina*; *cinctus* see *Menosoma*; *johnsoni* see *Bandara*.

Funkikonia gen. n. for *Ledra tuberculata* Katô p. 438, KATô Dobuts. Z. 43.

Goniognathus formosanus sp. n. Formosa p. 69 fig., MATSUMURA Thous. Ins. Japan Addit. 1 1913.

Graphocephala haitiensis Haiti p. 9, *dominicana* Santo Domingo p. 10, *spp. n.* figs., DOZIER Amer. Mus. Nov. no. 510.

Gypona octolineata mimicry of nymph p. 222 fig., SCRIVENER J. Wash. Acad. Sci. 21.

Hebata subgen. n. see *Empoasca*.

Hecalus fukuroki sp. n. Japan p. 49 fig., MATSUMURA Thous. Ins. Japan 2 1905.

Helionides gen. n., singularis sp. n. Japan p. 79 fig., MATSUMURA Ins. mats. 6.

Idiocerus ishiyamae p. 67, *vitticollis* p. 69, *spp. n.* Japan figs., MATSUMURA Thous. Ins. Japan 2 1905.

Idona subgen. n. see *Empoasca*.

Japananus gen. n. for *Platymetopius hyalinus* Osb. p. 218, BALL Canad. Ent. 63.

Jassus wolcottii sp. n. Haiti p. 12 fig., DOZIER Amer. Mus. Nov. no. 510.

Kybos redescription p. 84, MATSUMURA Ins. Mats. 6.

Laevicephalus excavatus California p. 430, *uhleri* Colorado p. 432 *spp. n.*; *debilis* Uhler (= *cadyi* Deay, *orbiculus* DeL.) p. 431 figs., OMAN J. Wash. Acad. Sci. 21.

Ledra perdita see *Centruchoides* (Membracidae); *tuberculata* see *Funkikonia*.

Ledropsis wakabae Honshiu, *takasagana* Formosa, *spp. n.* p. 437 figs., KATô Dobuts. Z. 43.—*L. adelungi* see *Petaloccephala*.

Macropsis lateralis sp. n. Japan p. 51 fig., MATSUMURA Thous. Ins. Japan 2 1905.

Menosoma gen. n. p. 4, *cincta var. n. binaria*; *stonei* (type) p. 5, *tortolita* p. 6 *spp. n.*; *cincta* O. & B. from *Eutettix*, *acuminata* Bak., *litigiosus* Ball from *Athysanus* p. 5, BALL Florida Ent. 15.—*M. acuminata* ♀ p. 433, OMAN J. Wash. Acad. Sci. 21.

Mesamia straminea var. n. dolosa; *tarbela* p. 91, *prescotia*, *orizaba* p. 92, *ludoviciana* p. 93, *spp. n.* U.S.A., BALL Bull. Brooklyn Ent. Soc. 26.

Midoria gen. n., capitata sp. n. Formosa p. 439 fig., KATô Dobuts. Z. 43.

Myogonia holzfussi sp. n. Colombia p. 76, SCHMIDT Wien. ent. Ztg. 48.

Naratettix gen. n. for *Erythria zonata* Mats. (with ff. *n. beppuana*, *ibukisana* p. 73, *fallax*, *issikii*, *l-nigrum* p. 74, *sapporensis* p. 75 Japan) figs., MATSUMURA Ins. mats. 6.

Nasutoideus gen. n. for *Platymetopius nasutus* Van D. p. 212; *andromus* p. 221, *anisacanus*, *calliandrus* p. 222, *celtidis* p. 224, *dodonanus*, *xanthanus*, *desertanus* p. 225, *heldoranus spp. n.*; *irroratus var. n. nogalinus* p. 226 U.S.A., BALL Canad. Ent. 63.

Neocoelidia texana p. 62, *beameri* p. 63, *fuscovittata* p. 65, *penelineata* p. 66, *distincta* p. 67 spp. n. U.S.A.; *pulchella* Ball distinct sp.; *obscura* Bak. (= *pentagona* Ball) p. 68, OMAN J. Kansas Ent. Soc. 4.

Nikkotettix gen. n. p. 76, *galloisi* sp. n. Japan p. 77 figs., MATSUMURA Ins. mats. 6.

Norvellina gen. n. for *Eutettix* *mil-dredae* Ball and others, *oregona*, *helenae* p. 3, *apachana* p. 4 spp. n. U.S.A., BALL Florida Ent. 15.

Parabolocratus prasinus sp. n. Japan p. 48 fig., MATSUMURA Thous. Ins. Japan 2 1905.—*P. okinawensis* sp. n. Riukiu I. p. 32 fig., MATSUMURA Trans. Sapporo N.H. Soc. 1 1906.

Paralimnus picturatus sp. n. Asia Minor p. 207 fig., HAUPT Deuts. ent. Z. 1930.

Parapetalocephala gen. n., *montana* sp. n. Formosa p. 435 fig., KATô Dobuts. Z. 43.

Penthimia Asiatic spp. pp. 8–12, *nigra* var. n. *caucasica* Caucasus p. 13; *nana* sp. n. Amur p. 12, KUZNETZOV Ent. NachrBl. 5.

Petalocephala engelhardti sp. n. Vladivostok p. 112; *adelungi* Mel. from *Ledropsis* p. 114, KUZNETZOV Wien. ent. Ztg. 48.—*P. rubromarginata* p. 433, *castanea*, *taikosana* p. 434, spp. n. Formosa figs., KATô Dobuts. Z. 43.

Petalocephaloides gen. n., *laticapitata* sp. n. Formosa p. 436 fig., KATô t.c.

Phlepsius smithi sp. n. Haiti p. 11 fig., DOZIER Amer. Mus. Nov. no. 510.—*P. divergens*, *obvius* spp. n. Texas p. 435 figs., OMAN J. Wash. Acad. Sci. 21.

Platymetopius hyalinus Osb. (= *cinctus* Mats.) p. 430, OMAN t.c.—*P. hyalinus* see *Japananus*; *elegans* see *Scaphytropius*; *nigriviridis* see *Deltopinus*; *angustatus* see *Cloanthanus*; *trilineatus* see *Platymoides*; *nasutus* see *Nasutoideus*; *nigricollis* see *Convelinus*.

Platymoides gen. n. for *Platymetopius trilineatus* Ball p. 219; *graneticus* p. 226, *guterranus*, *oviedus* p. 227 spp. n. U.S.A., BALL Canad. Ent. 63.

Scaphoideus blandus & others see *Twiningia*.

Scaphytropius gen. n. for *Platymetopius elegans* Van D. p. 218 (with var. n. *glennanus*); *floridanus* p. 220 (with var. n. *roseus*), *ritanus* p. 221 spp. n. U.S.A., BALL Canad. Ent. 63.

Selenocephalus nigrofemoratus sp. n. Japan p. 63 fig., MATSUMURA Thous. Ins. Japan 2 1905.

Sujitettix gen. n., *ferrugineus* sp. n. Japan p. 76 figs., MATSUMURA Ins. mats. 6.

Thamnotettix lapponicus ♀ p. 158 fig., HAUPT Mitt. deuts. ent. Ges. 2.—*T. burjata* Transbaikalia, *hieroglyphicus* Russia, spp. n. p. 1 fig., KUZNETZOV Konowia 10.—*T. simplex* H.-S. (= *chlamydatus* Prov.) p. 433, OMAN J. Wash. Acad. Sci. 21.

Tituria obtusa sp. n. Formosa p. 432 fig., KATô Dobuts. Z. 43.

Togaricrania gen. n., *rubrovitta* sp. n. Japan p. 72 fig., MATSUMURA Ins. mats. 6.

Togaritetix gen. n., *serratus* sp. n. Japan p. 71 figs., MATSUMURA t.c.

Twiningia gen. n. for *Scaphoideus blandus* Ball and others p. 93, *magnata*, *malvastra* spp. n. Arizona p. 94, BALL Bull. Brooklyn Ent. Soc. 26.

Xerophloea revision of N. American spp. pp. 159–169, key p. 160, *zionis*, *vanduzeei* p. 161, *obtusa*, *minor* p. 162, *californica*, *brunnea* p. 163, *robusta*, *inflata* p. 164, *majesta*, *oracis*, *tenuata* p. 165 spp. n.; *viridis* F. (= *grisea* Germ., *virescens* Stål, *peltata* Uhl.) p. 166 figs., LAWSON Pan-Pacific Ent. 7.

Zygina apicalis sp. n. Japan p. 480 fig., MATSUMURA in NAWA Insect Wld. 17 1913.

Zyginella quercus sp. n. Crimea p. 197 figs. [KUZNETZOV] KUSNEZOV Rev. russe Ent. 24 1930.

PSYLLIDAE (CHERMIDAE).

Chermidae from Utah, Nevada and Arizona, KLYVER Pan-Pacific Ent. 7 pp. 131–143, 157–158.

Revision of Psyllidae of Taiwan, KUWAYAMA Ins. mats. 5 pp. 117–133, 2 figs.

Aphalara gutierreziae p. 134, *minutistylus* p. 135 U.S.A. 7, *vancouverensis* Br. Columbia p. 11 8, spp. n. figs., KLYVER Pan-Pacific Ent. 7.

Aphalaroida intermedia sp. n. Nevada
p. 139 figs., KLYVER t.c.

Caillardia gen. n. p. 418, *haloxyli* sp.
n. Tunisia p. 419 figs., DE BERGEVIN
Bull. Soc. Hist. nat. Afr. N. 22.

Egeirotrioza gen. n. for *Trioza ceardi*
de Berg. p. 268, *ceardi* var. n. *euphratica*
Mesopotamia p. 269 figs., BOSELLI Boll.
Lab. Zool. Portici 24.

Euphyllura key p. 68, *pruinosa* p. 69,
bicolor p. 70 spp. n. California, MARTIN
J. Kansas Ent. Soc. 4.—*E. magna* sp. n.
Japan p. 151 fig., KUWAYAMA Trans.
Sapporo N.H. Soc. 2 1908.

Hemitrioza washingtonia sp. n. Wash-
ington p. 12 fig., KLYVER Pan-Pacific
Ent. 8.

Pachypsylloides mirabilis sp. n. Hog-
gar p. 320 figs., DE BERGEVIN Bull. Soc.
Hist. nat. Afr. N. 22.

Paratrioza
p. 420
Paurocephala fremontiae nymphal
stages p. 111 fig., KLYVER Canad. Ent.
63.—*P. bifasciata* sp. n. Taiwan p. 119
fig., KUWAYAMA Ins. mats. 5.

Pauropsylla nigra in Taiwan p. 118,
KUWAYAMA t.c.

Phacopteron Buckt. (= *Phafosema*
Kieff.) p. 416, DE BERGEVIN Bull. Soc.
Hist. nat. Afr. N. 22.

Phafosema see *Phacopteron*.

Psylla pyricola p. 112, *mali* p. 114
nymphal stages figs., KLYVER Canad.
Ent. 63.

Togepsylla gen. n., *takahashii* sp. n.
Taiwan p. 121 fig., KUWAYAMA Ins.
mats. 5.

Trichohermes Kirk. distinguished
from *Trioza* p. 130, KUWAYAMA t.c.

Trioza viridula biology, *nigricornis*
morphology, biology pp. 175–188 figs.,
SCHEWKET Z. angew. Ent. 18.—*T.*
ceardi see *Egeirotrioza*.

APHIDAE.

A preliminary list of E. China
Aphidae, CHIA-HSIEN YEN Peking N.H.
Bull. 6 pt. 2 pp. 61–70.

Biology of gall-forming Aphids,
DIEUZEIDE Act. Soc. linn. Bordeaux 81
1929 pp. 1–246, 64 figs.

Aphidae of Colorado, I, GILLETTE &
PALMER Ann. Ent. Soc. Amer. 24 pp.
827–934, 100 figs.

Notes on Aphidae of Venezia Triden-
tina with list, HILLE RIS LAMBERS
Mem. Mus. Stor. nat. Venezia tridentina
1 pp. 15–43, 7 pls.

Contribution to the knowledge of the
Aphidae, especially the Netherland
spp., I, HILLE RIS LAMBERS Tijdschr.
Ent. 74 pp. 169–183, 2 figs.

First papers dealing with the Aphid
fauna of America, HOTTES Proc. Biol.
Soc. Wash. 44 pp. 61–70.

The Aphidae of Illinois, with various
keys, HOTTES & FRISON Bull. Illinois
N.H. Surv. 19 pp. 121–447, 10 pls. 50
figs.

Data on the fauna and biology of
plant lice near Pulawy, 2, JUDENKO
Polsk. Pismo ent. 10 pp. 102–118, 2 pls.

Parasitism and symbiosis in Aphids,
MARCHAL C.R. Acad. Sci. Fr. 193 pp.
300–301.

Reproductive system of the Cocklebur
Aphid, MILLER Proc. Penn. Acad. Sci.
5 pp. 75–79, 10 figs.

Aphids of Yakutz, MORDVILKO Annu.
Mus. zool. Acad. Leningrad 32 pp. 289–
291.

Aphidae of Formosa, part 6, TAKA-
HASHI Rep. Govt. Res. Inst. Formosa 53
127 pp. 1 chart 1 fig.

The Aphid fauna of Basle and its
environs, WERDER Verh. naturf. Ges.
Basel 42 1932 pp. 1–98, 34 figs.

Histological and biological study of
Aphid galls, ZWEIGELT Monog. angew.
Ent. nr. 11 xxi + 684 pp. 5 pls. 155
figs.

Acanthaphis see *Matsumuraja*.

Adelges abietis biology p. 17 figs.,
BERSOT Rameau de Sapin, Neuchâtel
(2) 10 1926.

Amphorophora katsurae sp. n. Japan
p. 160, SHINJI Lansania 2 1930.—*A.*
nebulosa p. 275, *rossi* p. 277, *singularis*
p. 279, spp. n. Illinois figs., HOTTES &
FRISON Bull. Illinois N.H. Surv. 19.—
A. rhinanthi Schout. (= *britteni* Theo.)
biology p. 176, HILLE RIS LAMBERS
Tijdschr. Ent. 74.—*A. avenae* F. syno-
nymy discussed, (= *rosaeiformis* Das,
pseudorosae Patch, *allii* Jacks., *mis-
canthi* Tak.) p. 29, BÖRNER Anz. Schäd-
lingsk. 7.

Anuraphis revision pp. 336-501, with general biological notes figs., DEL GUERCIO Redia 19.—*A. napelli* alate and apterous viviparous ♀♀ p. 29 figs., WERDER Verh. naturf. Ges. Basel 42 1932.—*A. subterranea* Wlk. (= *heraclei* Koch) p. 9, BÖRNER Anz. Schädlingssk. 7.—*A. mumecola* sp. n. Japan p. 156, SHINJI Lansania 2 1930.—*A. artemisiae* see *Micraphis*.

Aphis spp. hosts of *Bombus* p. (51), HULKONEN Ann. Soc. zool.-bot. fenn. Vanamo 8 1929.—*A.* key p. 176, *caliginosa* p. 182, *chetansapa* p. 186, *decepta* p. 192, *funesta* p. 194, *knowltoni* p. 199, *luridis* p. 200, *nyctalis* p. 206, *pulchella* p. 212, *signatis* p. 219, *zilara* p. 224 spp. n. Illinois; *cephalanthi* Thomas (= *impatiens* Thomas) p. 185; *debilis-cornis* Gill. & Palm. (= *helianthi* Oest. nec Mon.) p. 191; *maculatae* Oest. (= *davisi* Patch) p. 201; *nerii* Fons. (= *lutescens* Mon.) p. 206; *symphoricarpi* Thomas (= *albipes* Oest.) p. 438 figs., HOTTES & FRISON Bull. Illinois N.H. Surv. 19.—*A. lactucae* identity discussed p. 10; *sambuci* biology Germany p. 117, BÖRNER Anz. Schädlingssk. 7.—*A. malvae* p. 16, *assueta* p. 33 further descriptions; *gossypii*, *malvae* distinguished p. 17; (*Doralis*) *hartigi* p. 18, *avicularis* p. 31 spp. n. Merano figs., HILLE RIS LAMBERS Mem. Mus. Stor. nat. Venezia tridentina 1.—*A. popovi* sp. n. Yakutz p. 291, MORDVILKO Annu. Mus. zool. Acad. Leningrad 32.—*A. forbesi* in France p. 174, PUSSARD Rev. Path. vég. Ent. agric. 18.—*A. leguminosae* biology pp. 5-16 figs., VAN DER MERWE Ent. Mem. Dept. Agric. Un. S. Africa no. 7.—*A. persicae* Boy. see *Appelia schwartzi*; *amygdali* Blanch. see *Hyalopterus arundinis*; *angelicae* see *Dysaphis*; *serratulae* see *Dactynotus marcatius*.

Appelia schwartzi n. n. for *Aphis persicae* Boy. nec Sulz. (= *amygdali* Buckt. nec Blanch.) p. 9, BÖRNER Anz. Schädlingssk. 7.

Asiphonaphis anogis sp. n. Illinois p. 225 figs., HOTTES & FRISON Bull. Illinois N.H. Surv. 19.

Astegopteryx vandermeermohri p. 1, *sumatrana* p. 4, spp. n. Sumatra figs., HILLE RIS LAMBERS Misc. zool. sumat. 55.—*A. jamuritsu* sp. n. Formosa p. 87, TAKAHASHI Rep. Govt. Res. Inst. Formosa 53.—*A. kashifoliae* see *Thora-caphis*.

Capitophorus corambus p. 281, *pak-ansus* p. 286, *patonkus* p. 287 spp. n. Illinois; *flaveolus* Wlk. (= *Myzus braggii* Gill. p. 282; *fragariaefolii* Ckll. (= *M. fragariae* Theo.) p. 283 figs., HOTTES & FRISON Bull. Illinois N.H. Surv. 19.—*C. horni* sp. n. Germany p. 129, BÖRNER Anz. Schädlingssk. 7.—*C. montanus* sp. n. Formosa p. 77, TAKAHASHI Rep. Govt. Res. Inst. Formosa 53.—*C. hippophaes* new to China sep. p. 1, TAKAHASHI Proc. Nat. Hist. Soc. Fukien Christian Univ. 3 1930.

Cavariella araliae new to China sep. p. 1, TAKAHASHI t.c.—*C. azamii* sp. n. Japan p. 153, SHINJI Lansania 2 1930.

Cedoaphis incognita n. n. for *symphoricarpi* Oest. nec Thomas p. 438, HOTTES & FRISON Bull. Illinois N.H. Surv. 19.

Cerosiphia roepkei sp. n. Merano p. 35 figs., HILLE RIS LAMBERS Mem. Mus. Stor. nat. Venezia tridentina 1.

Chaitophoraphis acerifloris see *Drepanaphis tokyoensis*.

Chaitophorus hickeliana sp. n. Morocco p. 201 figs., MIMEUR Rev. Path. vég. Ent. agric. 18.—*C. roepkei*, *brachyunguis* spp. n. Centr. Europe p. 28, BÖRNER Anz. Schädlingssk. 7.—*C. populella* life-history pp. 893-896, SWEETMAN J. Econ. Ent. 24.—*C. anuraphoides* sp. n. Trentino p. 30 figs., HILLE RIS LAMBERS Mem. Mus. Stor. nat. Venezia tridentina 1.—*C. neglectus* p. 161, *pusillus* p. 163, spp. n. Illinois figs., HOTTES & FRISON Bull. Illinois N.H. Surv. 19.

Chermes laricicola sp. n. p. 151 Japan, SHINJI Lansania 2 1930.

Cinara key, *difficilis* sp. n. Illinois p. 153 fig., HOTTES & FRISON Bull. Illinois N.H. Surv. 19.—*C. apini* var. n. *villosa* Colorado p. 847 fig., GILLETTE & PALMER Ann. Ent. Soc. Amer. 24.

Clavosiphum gen. n., *adenocaulis* sp. n. Japan p. 790, SHINJI Dobuts. Z. 34 1922.

Dactynotus marcatius n. n. for *Aphis serratulae* Kalt. nec Schr. p. 170 fig., HILLE RIS LAMBERS Tijdschr. Ent. 74.

Dentatus v.d.G. nec Gray see *Yezabura*.

Diverosiphum gen. n., *kunugii* sp. n. Japan p. 791, SHINJI Dobuts. Z. 34 1922.

Drepanaphis tokyoensis Tak. (= *Chaitophoraphis acerifloris* Shinji) p. 6, TAKAHASHI Proc. Ent. Soc. Wash. 32 1930.—*D. keshenae* sp. n. U.S.A. p. 248, GRANOVSKY in HOTTES & FRISON Bull. Illinois N.H. Surv. 19.—*D. minutus* see *Shenahweum*.

Dysaphis gen. n. for *Aphis angelicae* Koch p. 9, BÖRNER Anz. Schädlingk. 7.

Eriosoma lanigerum morphology, biology vii + 126 pp. figs., DE FLUITER Proefschr. Rijksuniv. Leiden 1931.—*E. mimica* sp. n. Illinois p. 353 fig., HOTTES & FRISON Bull. Illinois N.H. Surv. 19.

Georgiaphis ulmi Wilson (= *gillettei* Maxs. & Hott.) p. 357 fig., FRISON & HOTTES t.c.

Glyphina jacutensis sp. n. Yakutz p. 290, MORDVILKO Annu. Mus. zool. Acad. Leningrad 32.

Goodea gen. n., *narafoliae* sp. n. Japan p. 731, SHINJI Dobuts. Z. 34 1922.

Greenidea viticola wingless viviparous ♀ p. 30, TAKAHASHI Rep. Govt. Res. Inst. Formosa 53.—*G. tattakana* see *Paratrachosiphum*.

Hyalopteris arundinis F. (= *Aphis amygdali* Blanch. nec Buckt.) p. 10, BÖRNER Anz. Schädlingk. 7.

Hydronaphis gen. n., *impatiens* sp. n. Japan p. 790, SHINJI Dobuts. Z. 34 1922.

Kakimia subgen. n. see *Myzus*.

Lachnaphis gen. n., *yomogi* sp. n. Japan p. 729, SHINJI Dobuts. Z. 34 1922.

Lachnus type *lapidarius* F. p. 250, ORFILA Rev. Soc. ent. argent. 3.

Lutaphis gen. n. p. 346, *nirecola* sp. n. Japan p. 347, SHINJI Dobuts. Z. 36 1924.

Macrocaudus gen. n., *phaseoli* sp. n. ? Japan p. 79, SHINJI Lansania 2 1930 [not seen].

Macrosiphoniella pseudolineata sp. n. Holland p. 172; *lineata* a subsp. of *ludoviciana* p. 175, HILLE RIS LAMBERS Tijdschr. Ent. 74.—*M. teriolana* sp. n. Merano p. 21 figs., HILLE RIS LAMBERS Mem. Mus. Stor. nat. Venezia tridentina 1.

Macrosiphum montanum sp. n. Trentino p. 19 figs., HILLE RIS LAMBERS t.c.—*M.* key p. 293, *anomalae* p. 298, *illini* p. 309 (with varr. *n. crudae* p. 311,

sangamonensis), kickapoo p. 312, *pallens* p. 315, *ruralis* p. 321, *sanguinarium* p. 323, *tapuskae* p. 327, *tardae* p. 329, *zinzalae* p. 332 spp. n. Illinois; *gei* Koch (= *Siphonophora euphorbiae* Thomas, *S. euphorbicola* Thomas) p. 306 figs., HOTTES & FRISON Bull. Illinois N.H. Surv. 19.—*M. lactucarium* sp. n. Centr. Europe p. 11, BÖRNER Anz. Schädlingk. 7.—*M. solanifolii* changes in parthenogenetic strains p. 112, SHULL Anat. Rec. 51 suppl.—*M. colylicola* sp. n. Japan p. 27, SHINJI Lansania 2 1930 [not seen].—*M. hieracii* see *Submacro-siphum*.

Matsumuraja gen. n. for *Acanthaphis* Mats. nec Del Guercio p. 186, SCHUMACHER Zool. Anz. 63 1921.—*M. rubifoliae* n. n. for *rubi* Tak. nec Mats. p. 78, TAKAHASHI Rep. Govt. Res. Inst. Formosa 53.

Melanoxantherium antennatum see *Paducia*.

Micraphis gen. n. for *Anuraphis artemisiae* Tak. p. 53, TAKAHASHI Rep. Govt. Res. Inst. Formosa 53.

Microsiphum woronieckae sp. n. Poland p. 107, JUDENKO Polsk. Pismo ent. 10.

Mindarus japonicus sp. n. Japan p. 137 figs., TAKAHASHI Trans. N.H. Soc. Formosa 21.

Monellia nigropunctata sp. n. U.S.A. p. 252, GRANOVSKY in HOTTES & FRISON Bull. Illinois N.H. Surv. 19.

Myzocallis discolor var. n. *coloradensis* Colorado p. 890, GILLETTE & PALMER Ann. Ent. Soc. Amer. 24.—*M. walshii* sexual ff. described p. 260 figs., HOTTES & FRISON Bull. Illinois N.H. Surv. 19.

Myzus key p. 334, (*Kakimia* subgen. n. p. 344) *thomasi* sp. n. Illinois p. 343 figs., HOTTES & FRISON t.c.—*M. cerasi*, *pruniarum* identity discussed p. 29, BÖRNER Anz. Schädlingk. 7.—*M. mushaensis* p. 67, *plantagicola* p. 69, spp. n. Formosa, TAKAHASHI Rep. Govt. Res. Inst. Formosa 53.—*M. braggii* see *Capitophorus flaveolus*; *fragariae* see *C. fragaefolii*.

Neolachnaphis gen. n., *itadori* sp. n. Japan p. 353, SHINJI Dobuts. Z. 36 1924.

Neosymydobius memorialis sp. n. Illinois p. 262 figs., HOTTES & FRISON Bull. Illinois N.H. Surv. 19.

Pachypappa vesicalis notes p. 43, BÖRNER Anz. Schädlingk. 7.

Paducia gen. n. for *Melanoxantharium antennatum* Patch p. 167 figs., HOTTES & FRISON Bull. Illinois N.H. Surv. 19.

Paratrachosiphum gen. n. for *Greenidea tattakana* Tak. & others p. 31, *lithocarpi* sp. n. Formosa p. 32, TAKAHASHI Rep. Govt. Res. Inst. Formosa 53.

Pemphigus brevicornis alate sexupara p. 364; *ephemeratus* p. 365, *tartareus* p. 369, spp. n. Illinois figs., HOTTES & FRISON Bull. Illinois N.H. Surv. 19.

Phloeomyzus redelei sp. n. Merano p. 29 figs., HILLE RIS LAMBERS Mem. Mus. Stor. nat. Venezia tridentina 1.

Phorodon polygoni see *Trichosiphonaphis*.

Plocamaphis terricola sp. n. Illinois p. 173 figs., HOTTES & FRISON Bull. Illinois N.H. Surv. 19.

Pseudolachnus gen. n., *yomogi* sp. n. Japan p. 730, SHINJI Dobuts. Z. 34 1922.

Pyraphis gen. n., *streili* sp. n. Germany p. 10, BÖRNER Anz. Schädlingk. 7.

Rhopalosiphoninus alpigenae alate migrant p. 55 figs., WERDER Verh. naturf. Ges. Basel 42 1932.

Rhopalosiphum davisii n. n. for *howardi* Dav. nec Wils. p. 44, MORDVILKO Bull. Sta. rég. Prot. Plantes Petrograd 3 1922.—*R. enigmae* sp. n. (with var. n. *parvae* p. 237) Illinois p. 235 figs., HOTTES & FRISON Bull. Illinois N.H. Surv. 19.—*R. crataegellus*, *annuae* identity discussed p. 42, BÖRNER Anz. Schädlingk. 7.—*R. graminum* see *Schizaphis*.

Saltusaphis wanica sp. n. Illinois p. 266 figs., HOTTES & FRISON Bull. Illinois N.H. Surv. 19.

Sarucallis gen. n., *lythrae* sp. n. Japan p. 730, SHINJI Dobuts. Z. 34 1922.

Schizaphis gen. n. for *Rhopalosiphum graminum* Rond. p. 10, BÖRNER Anz. Schädlingk. 7.

Schizoneura ulmi biology p. 18, ZWEIFELT Monog. angew. Ent. nr. 11.

Semiaphis escherichi sp. n. Germany p. 128, BÖRNER Anz. Schädlingk. 7.

Shenahweum gen. n. for *Drepanaphis minutus* Davis p. 267, HOTTES & FRISON Bull. Illinois N.H. Surv. 19.

Siphonoeocoryne gen. n., *polygoni* sp. n. Japan p. 793, SHINJI Dobuts. Z. 34 1922.

Siphonophora euphorbiae, *euphorbicola* see *Macrosiphum gei*.

Submacrosiphum gen. n. for *Macrosiphum hieracii* Kalt. p. 22, subspp. n. *teriolanum*, *nigrum* Trentino p. 23 figs., HILLE RIS LAMBERS Mem. Mus. Stor. nat. Venezia tridentina 1.

Telocallis gen. n., *alnifoliae* sp. n. Japan p. 731, SHINJI Dobuts. Z. 34 1922.

Tetraneura ulmi biology p. 2, ZWEIFELT Monog. angew. Ent. no. 11.

Thoracaphis distinct genus p. 89, key, *kashifoliae* Uye from *Astegopteryx* p. 90, TAKAHASHI Rep. Govt. Res. Inst. Formosa 53.

Titanosiphon minkiewiczii sp. n. Poland p. 105, JUDENKO Polsk. Pismo ent. 10.

Toxoptera graminum ecology pp. 325–395 figs., WADLEY Ann. Ent. Soc. Amer. 24.—*T. nigerrima* sp. n. Holland p. 178 fig., HILLE RIS LAMBERS Tijdschr. Ent. 74.

Trama taraxaci sp. n. Japan p. 152, SHINJI Lansania 2 1930.

Trichosiphonaphis polygoni v.d. Goot from *Phorodon* sep. p. 1, TAKAHASHI Proc. Nat. Hist. Soc. Fukien Christian Univ. 3 1930.

Trichosiphum tenuicorpus p. 6, *pasaniae* p. 11, spp. n. Japan, OKAJIMA Bull. Coll. Agric. Tokyo 8 1908.

Tuberosiphum gen. n., *impatiens* (type), *camphorae* spp. n. Japan p. 789, SHINJI Dobuts. Z. 34 1922.

Yezabura Mats. (type *sasae* Mats.) (= *Dentatus* v.d.G. 1913 nec Gray 1847) p. 164, BÖRNER Arch. klass. phylog. Ent., Vienna 1 1930.—*Y. marchali* sp. n. Tyrol p. 9, BÖRNER Anz. Schädlingk. 7; further description p. 36, HILLE RIS LAMBERS Mem. Mus. Stor. nat. Venezia tridentina 1.

ALEURODIDAE.

Some observations on Aleurodidae, HARRISON Ent. Rec. 43 pp. 84–86.

Revision of Aleurodidae of India, table of genera p. 8, SINGH Mem. Dept. Agric. India 12 pp. 1–98, 37 pls.

Acanthaleyrodes gen. n. p. 220, *calli-carpa* sp. n. Formosa p. 221 fig., TAKAHASHI J. Soc. Trop. Agric. Taihoku 3.

Aleurocanthus cinnamomi sp. n. Formosa p. 205 figs., TAKAHASHI Trans. N.H. Soc. Formosa 21.—*A. spiniferus* biology 38 pp. figs., KODAMA Kago-shima-Ken, Kyushu 1931.—*A. palauensis* sp. n. Palau I. p. 659 figs., KUWANA Dobuts. Z. 43.—*A.* key to Indian spp. p. 64, *simplex* p. 69, *rosae* p. 70, *rugosa* p. 71, spp. n. India figs., SINGH Mem. Dept. Agric. India 12.

Aleuroclava gen. n. p. 90, *complex* sp. n. India p. 91 figs., SINGH t.c.

Aleurodes of Cumberland pp. 21-23, MARRINER Ent. Rec. 43.—*A. brassicae* compound eye pp. 431-435 figs., ELTRINGHAM Trans. Ent. Soc. Lond. 79.

Aleurodicus machili sp. n. Formosa p. 208 figs., TAKAHASHI Trans. N.H. Soc. Formosa 21.

Aleurolobus oplismeni sp. n. Formosa p. 261 figs., TAKAHASHI t.c.

Aleurothrixus indicus sp. n. Pusa p. 84 figs., SINGH Mem. Dept. Agric. India 12.

Aleurotrachelus fissistigmae sp. n. Formosa p. 264 fig., TAKAHASHI Trans. N.H. Soc. Formosa 21.—*A.* key to Indian spp. p. 54, *rachipora* p. 57, *caerulescens* p. 59, *psidii* p. 61, *murrayae* p. 62, spp. n. India figs., SINGH Mem. Dept. Agric. India 12.

Aleurotulus key to Indian spp. p. 86, *arundinacea* p. 88, *maculata* p. 89, spp. n. Pusa figs., SINGH t.c.

Bemisia key to Indian spp. p. 78, *grossa*, *achyranthes* spp. n. India p. 82 figs., SINGH t.c.—*B. gossypiperda* life-history pp. 508-526, HUSAIN Agric. J. India 25.—*B. aceri* sp. n. Formosa p. 204 figs., TAKAHASHI Trans. N.H. Soc. Formosa 21.—*B. pongamiae* sp. n. Formosa p. 223 fig., TAKAHASHI J. Soc. Trop. Agric. Taihoku 3.

Dialeurodes lithocarpi p. 218, *bladhiae* p. 219, spp. n. Formosa figs., TAKAHASHI t.c.—*D. citri* new to Formosa p. 203; *murrayae* sp. n. Formosa p. 262 fig., TAKAHASHI Trans. N.H. Soc. Formosa 21.—*D.* key to Indian spp. p. 22, *rotunda* p. 26, *spina* p. 27, *pallida* p. 30, *vulgaris* p. 33, *ixorae* p. 38, *fletcheri*, *glomerata* p. 39, *minuta* p. 42, spp. n. India figs., SINGH Mem. Dept. Agric. India 12.

Paratrioza cockerelli biology pp. 283-290 figs., KNOWLTON & JAMES Ann. Ent. Soc. Amer. 24.

Pealius misrae sp. n. Pusa p. 44 figs., SINGH Mem. Dept. Agric. India 12.

Setaleyrodes gen. n. p. 221, *mirabilis* sp. n. Formosa p. 222 fig., TAKAHASHI J. Soc. Trop. Agric. Taihoku 3.

Trialeurodes key to Indian spp. p. 45, *rara* p. 47, *breyntiae* p. 49, *bicolor* p. 50, spp. n. India figs., SINGH Mem. Dept. Agric. India 12.—*T. vaporariorum* morphology of egg, physiology, development and ethology pp. 575-753 figs., WEBER Z. Morph. Oekol. Tiere 23.

COCCIDAE.

Coccid fauna of Corsica, BALACHOWSKY Bull. Soc. ent. Fr. 1931 pp. 96-102.

Coccoids collected on wild plants in semi-arid regions of Texas and Mexico, BIBBY Bull. Brooklyn Ent. Soc. 26 pp. 189-194; also in J. N.Y. Ent. Soc. 39 pp. 587-591.

Coccidae from the Caucasus region, GAVALOV Krasnodar 1931 22 pp.

Observations on British Coccidae, XIII, GREEN Ent. Mon. Mag. 67 pp. 99-106, 3 figs.

Coccidae from S. Rhodesia, HALL Trans. Ent. Soc. Lond. 79 pp. 285-303, 8 figs.

List of Coccidae of Yokohama, KANDA Insect Wld. 34 1930 pp. 413-417.

Coccidae from Ukraine and the Crimea, KIRICHENKO Plant Prot. 7 pp. 307-321.

Coccidae from Rumania, KNECHTEL 1^{er} Congr. nat. Naturalistes Roumanie 1928 1930 pp. 230-237.

List of Coccidae in Amamioshima I., LOOCHOO Is., KUWANA Dobuts. Zasshi 43 pp. 163-171, 4 figs.

List of Coccids of Morocco, DE LÉPNEY & MIMÉUR Rev. Path. vég. Ent. agric. 18 pp. 243-255.

List of Coccids described by the author with distribution and references to literature, LINDINGER Ent. Rdsch. 48 pp. 8-10, 19 etc.

Males of lac and pseudo-lac insects, MAHDIHASSAN Z. wiss. Zool. 138 pp. 371-385, 18 figs.

Sexual and other dimorphisms among lac insects, MAHDIHASSAN Biol. Generalis 7 pp. 517-530, 13 figs.

On the Coccidae of Corea and their food-plants, NAKAYAMA Oyo-Dobuts. Zasshi 3 pp. 226-229.

Aclerda spp. of Japan pp. 229-231, KUWANA Oyo-Dobuts. Zasshi 3.

Anididia lahoarei sp. n. Formosa p. 219 fig., TAKAHASHI Bull. Ent. Res. 22.—*A. subsimplex* p. 285, *visci* p. 286, spp. n. S. Rhodesia, HALL Trans. Ent. Soc. Lond. 79.

Apiomorpha classification pp. 431-454, *withersi* sp. n. New South Wales p. 444 figs., FROGGATT Proc. Linn. Soc. N.S.W. 66.

Aspidiotus chinensis sp. n. China p. 335 fig., KUWANA & MURAMATSU J. Plant Prot. 18.—*A. australiensis* Thursday I., *biprominens*, *javanensis* Java spp. n. p. 658 figs., KUWANA Dobuts. Z. 43.—*A. miscanthii* sp. n. Amamioshima I., Loochoo Is. p. 169, KUWANA Dobuts. Zasshi 43.—*A. prunorum* sp. n. Baluchistan p. 99 fig., LAING Mem. Dept. Agric. India 12.—*A. osborni* symbiotic relation to a fungus pp. 383-437, figs., COUCH Quart. J. Micr. Sci. 74.—*A. phragmitis* sp. n. Formosa p. 4 fig., TAKAHASHI Trans. N.H. Soc. Formosa 21.—*A. arthropityi* sp. n. Turkmenia p. 83 figs., ARCHANGELSKIĖ Plant Prot. 7.

Asterolecanium pustulans var. *sambuci* morphology p. 165 figs., CARMIN & SCHEINKIN Bull. Soc. ent. Egypte 1931.

Aulacaspis robusta, *murrayae* spp. n. Formosa p. 212 figs., TAKAHASHI Bull. Ent. Res. 22.

Cerococcus perowskiae p. 75, *longipilosus* p. 78, spp. n. Turkmenistan figs., ARCHANGELSKIĖ Plant Prot. 7.

Ceroplastes giganteus sp. n. Haiti p. 2 fig., DOZIER Amer. Mus. Nov. no. 495.—*C.* key to S. Rhodesia spp. p. 290, *berliniae* p. 291 (with var. n. *enkeldoorni* p. 292), *helichrysi* p. 295 (with var. n. *sinoiae* p. 296), *toddaliae* p. 299, *uapacae* p. 300 (with var. n. *chrysophylli* p. 302) spp. n.; *destructor* var. n. *brevicauda* p. 293; *egbarum* var. n. *rhodesiensis* p. 294; *longicauda* var. n. *sappii* p. 296; *quadrilineatus* var. n. *royenae* p. 297; *russi* var. n. *eugeniae* p. 298 S. Rhodesia figs., HALL Trans. Ent. Soc. Lond. 79.

Chionaspis cacti Germany, *miyakoenis* Miyakojima I., *javanensis* Batavia spp. n. p. 657 figs., KUWANA Dobuts. Z. 43.

Chrysomphalus ficus biology 19 pp., PRIESNER Min. Agric. Egypt Tech. & Sci. Serv. Bull. 117.—*C. aurantii* life-history pp. 1222-1229 figs., BLISS, BROADBENT & WATSON J. Econ. Ent. 24.

Coccus viridis morphology, biology pp. 17-29 figs., MILLER Sci. Ser. S.S. & F.M.S. no. 7.

Cryptoripersia leucocystis sp. n. U.S.A. p. 1 figs., BUEKER Amer. Mus. Nov. no. 453.

Diaspis gordoniae sp. n. Formosa p. 211 fig., TAKAHASHI Bull. Ent. Res. 22.—*D. machili* sp. n. Formosa p. 1, TAKAHASHI Trans. N.H. Soc. Formosa 21.

Drosicha turkestanica sp. n. Turkestan p. 69 figs., ARCHANGELSKIĖ Plant Prot. 7.

Eriococcus zygophylli p. 72, *turkmenicus* p. 73, spp. n. Turkmenistan fig., ARCHANGELSKIĖ t.c.—*E. shiraiwai* Mexico, *kaki* China spp. n. p. 659 figs., KUWANA Dobuts. Z. 43.—*E. henmii* sp. n. Loochoo Is. p. 168, KUWANA Dobuts. Zasshi 43.—*E.* list of French spp. pp. 58-75; *roboris* [robaris in error] p. 58, *socialis* p. 62, *polyphagus* p. 68, spp. n. France figs., GOUX Bull. Soc. zool. Fr. 56.

Eriopeltis lichtensteini, *festucae* distinguishing characters p. 319, KIRICHENKO Plant Prot. 7.

Eucalymnatus itanhaensis sp. n. Brazil p. 395 figs., MENDES Rev. Ent. S. Paulo 1.

Eulecanium corni morphology, biology pp. 279-298 figs., CUSCIANNA Boll. Lab. Zool. Portici 24.

Fiorinia smilaceti sp. n. Formosa p. 218 fig., TAKAHASHI Bull. Ent. Res. 22.—*F. proboscidiaria* new to Japan, ♀ sep. pp. 3 figs. [in Japanese], KUWANA Yengei-No-Kenkyu, Okitsu no. 26.

Heliococcus radicolica sp. n. France p. 113 figs., GOUX Bull. Soc. ent. Fr. 1931.

Hemichionaspis aspidistrae morphology, biology pp. 517-541 figs., WERNER Pap. Mich. Acad. Sci. 13.

Kermes list and characters of known Palaearctic spp. pp. 242-245, *nahalali*, *greeni* spp. n. Palestine p. 246 figs., BODENHEIMER Konowia 10.—*K.* of Japan pp. 15-29, key p. 17, *mutsurensis* sp. n. Mutsure I. p. 26 figs., KUWANA

Sci. Bull. Minist. Agric. For. Japan 2.
—*K. tomarii* sp. n. S. Manchuria in pp.
47–51 figs., KUWANA Kontyû 5.

Laccifer nagoliensis, *communis* last
two moults pp. 230–244 figs., MAHDI-
HASSAN Tijdschr. Ent. 74.—*L. lacca*
larval anatomy pp. 297–306 figs.,
MISRA Bull. Ent. Res. 22; internal
anatomy of ♀ pp. 297–323, of ♂ pp.
1359–1381 figs., MISRA Proc. Zool. Soc.
Lond. 1931.

Lakshadia first ecdysis pp. 223–234
figs., MAHDIHASSAN Deuts. ent. Z.
1930.—*L. communis* second larval stage
in female pp. 289–304 figs., MAHDI-
HASSAN Zool. Anz. 94.

Lepidosaphes ulmi morphology, bi-
ology pp. 5–13, HERIOT Proc. Ent. Soc.
Br. Columbia 28.—*L. mazoensis* sp. n. S.
Rhodesia p. 288 fig., HALL Trans. Ent.
Soc. Lond. 79.—*L. imperatae* sp. n.
Loochoo Is. p. 170, KUWANA Dobuts.
Zasshi 43.—*L. sacchari* new to Formosa
p. 2, TAKAHASHI Trans. N.H. Soc.
Formosa 21.—*L. cycadicola* sp. n. For-
mosa p. 658 figs., KUWANA Dobuts.
Z. 43.

Lepidosaphoides gen. n. for *Leucaspis*
bambusae Kuw. [nec *Chionaspis bam-*
busae Ckll.] p. 106, LINDINGER Jber.
Inst. angew. Bot. Hamburg 1929
(1930).

Leucaspis formosanus sp. n. Formosa
p. 2, TAKAHASHI Trans. N.H. Soc.
Formosa 21.—*L. bambusae* see *Lepido-*
saphoides.

Lichtensia rifana sp. n. Morocco p. 215
fig., BALACHOWSKY Bull. Soc. Sci. nat.
Maroc 10.

Margarodes sp. intracellular, heredi-
tary symbionts p. 217 figs., ŠULC Biol.
Spisy 2 1923.

Neolecanium cornuparvum biology
pp. 302–304 figs., HERRICK Ann. Ent.
Soc. Amer. 24.

Nidularia pulvinata in Portugal p.
361 figs., DE SEABRA Arq. Secc. Biol.
Parasit. Univ. Coimbra 1 1930.

Parlatoria machili sp. n. Formosa p.
218 fig., TAKAHASHI Bull. Ent. Res. 22.
—*P. itabicola* sp. n. Loochoo Is. p. 171,
KUWANA Dobuts. Zasshi 43.

Phenacaspis of Japan pp. 1–14, key
p. 2, *quercus* p. 6, *fujicola* p. 8, *momii*
p. 9, *kentiae* p. 10, spp. n. Japan figs.,

KUWANA Sci. Bull. Minist. Agric. For.
Japan 2.—*P. dendrobii* sp. n. Hong Kong
p. 657 figs., KUWANA Dobuts. Z. 43.

Phenacoccus viburni sp. n. Japan in
pp. 25–28 (in Japanese), KANDA Insect
Wld., Gifu 35.—*P. arthropityi* sp. n.
Turkmenia p. 74 fig., ARCHANGELSKIĭ
Plant Prot. 7.

Physokermes unifasciatus sp. n.
Samarkand p. 79 figs., ARCHANGELSKIĭ
t.c.

Pinnaspis lithocarpi sp. n. Formosa p.
214 fig., TAKAHASHI Bull. Ent. Res. 22.

Prontaspis yanonensis biology no. 11
40 pp.; no. 16 28 pp., NOGUCHI Extra
Rep. Shizuoka Agric. Expt. Sta.

Pseudococcus lilacinus morphology p.
168 figs., CARMIN & SCHEINKIN Bull.
Soc. ent. Egypte 1931.

Pulvinaria durantae sp. n. Formosa p.
1, TAKAHASHI Trans. N.H. Soc. For-
mosa 21.—*P. artemisiae* var. n. turk-
estanica Uzbekistan p. 81 figs., ARCH-
ANGELSKIĭ Plant Prot. 7.

Rhizoecus kondonis life-history pp.
640–644 [in Japanese] figs., NOGUCHI
J. Plant Prot., Tokyo 18.—*R. decoratus*,
terrestris distinguished p. 102; *mesem-*
bryanthemi sp. n. England p. 103 fig.,
GREEN Ent. Mon. Mag. 67.—*R. cyno-*
dontis sp. n. India p. 559 fig., GREEN
Ann. Mag. N.H. (10) 7.

Ripersia oryzae sp. n. India p. 357 fig.,
GREEN t.c.

Saissetia oleae parasites Eritrea pp.
245–255, COMPERE Univ. Calif. Pub.
Ent. 5.

Trionymus interjecti sp. n. U.S.A. p. 3
figs., BUEKER Amer. Mus. Nov. no. 453.

Tsukushiaspis vermiformis p. 215,
phragmitis p. 216, spp. n. Formosa figs.,
TAKAHASHI Bull. Ent. Res. 22.

THYSANOPTERA.

Thysanoptera of the Stavropol
Region, GAVALOV Bull. N. Cauc. Plant
Prot. Sta. 6–7 1930 pp. 195–198.

A survey of European Thysanoptera,
HUKKINEN Notul. ent. 11 pp. 29–37.

Thysanoptera of Japan, parts I, II, ISHIDA Ins. mats. 5 pp. 149-154; 6 pp. 32-42, 5 figs.

Thysanoptera from Novgorod Govt., JOHN Rev. russe Ent. 24 1930 pp. 218-219.

List of Thysanoptera from Minussinsk district, JOHN Jahrb. Martj. Staatsmus. Minussinsk 6 (1928) 1929 pp. 60-63.

Notes on Danish Thysanoptera, MALTBAEK Ent. Medd. 17 pp. 369-380.

Biological and cytological studies on Thysanoptera, PUSSARD-RADULESCO Ann. Epiphyt. 16 pp. 103-188, 2 pls. 27 figs.

Thysanoptera new to Siberia, SCALON Konowia 10 pp. 89-92.

Aeolothrips concinus sp. n. Japan p. 32 fig., ISHIDA Ins. mats. 6.—*A. aureus* sp. n. Nevada p. 122, MOULTON Pan Pacific Ent. 7.—*A. fulvicollis* further description; *pandyani* sp. n. India p. 1030 figs., RAMAKRISHNA AYYAR & MARGABANDHU J. Bombay N.H. Soc. 34.

Anaphothrips flavicinctus brachypterous ♀ p. 1036, RAMAKRISHNA AYYAR & MARGABANDHU t.c.—*A. orchidearum* sp. n. Brazil p. 435 figs., BONDAR Chacaras e Quintaes, S. Paulo 44.

Aptinothrips antennae pp. 162-166, *rufus* f. n. *intermedia* Austria p. 163 fig., PRIESNER Ent. Jahrb. 1921.

Arrhenochiris retamae see *Haplothrips*.

Ayyaria chaetophora further description p. 1034, RAMAKRISHNA AYYAR & MARGABANDHU J. Bombay N.H. Soc. 34.

Chiraplothrips subgen. n. see *Haplothrips*.

Chirothrips watanabei sp. n. Japan p. 153, ISHIDA Ins. mats. 5.—*C. manicatus* new to India p. 1031, RAMAKRISHNA AYYAR & MARGABANDHU J. Bombay N.H. Soc. 34.

Dactuliothripidae fam. n. p. 173, MOULTON Pan-Pacific Ent. 7.

Dactuliothrips gen. n. (Dactuliothripidae, Melanothripoidea) p. 173, *spinus* sp. n. California p. 174, MOULTON t.c.

Dendrothrips ornatus in N. America p. 75, MOULTON Bull. Brooklyn Ent. Soc. 26.—*D. dwivarna* sp. n. India p. 1032 figs., RAMAKRISHNA AYYAR & MARGABANDHU J. Bombay N.H. Soc. 34.

Docesissophothrips animus see *Megalthrips picticornis*.

Dorythrips gen. n. (Aeolothripidae), *chilensis* sp. n. Chile p. 1 fig., HOOD Bull. Brooklyn Ent. Soc. 26.

Erythrothrips asiaticus sp. n. S. India p. 1029 figs., RAMAKRISHNA AYYAR & MARGABANDHU J. Bombay N.H. Soc. 34.

Euoplothrips malabarica sp. n. India p. 1039 fig., RAMAKRISHNA AYYAR & MARGABANDHU t.c.

Euryaplothrips gen. n. (Haplothripidae) p. 1037, *crassus* sp. n. India p. 1038 figs., RAMAKRISHNA AYYAR & MARGABANDHU t.c.

Euthrips gossypii sp. n. Formosa p. 65 [in Japanese], SHIRAKI Spec. Rep. Formosa Agric. Expt. Sta. 5 1913.

Frankliniella vaccinii sp. n. Maine p. 127, MORGAN in PHIPPS Bull. Maine Agric. Expt. Sta. 358 1930.—*F. insularis* sex determination pp. 139-142, DAVIDSON & BALD Austr. J. Exptl. Biol. Med. Sci. 8.

Fulmekiola indica sp. n. India p. 1034, RAMAKRISHNA AYYAR & MARGABANDHU J. Bombay N.H. Soc. 34.

Gynaikothrips key to Indian spp. p. 1040, RAMAKRISHNA AYYAR & MARGABANDHU t.c.—*G. claripennis* ♀ p. 39; *flavus* sp. n. Formosa p. 40 fig., ISHIDA Ins. mats. 6.—*G. brevisetis* Philippines p. 263, *eugeniae* p. 266, *retusae* p. 269 Malacca, F.M.S., *ficarius* Singapore p. 267, *piperis* no locality, spp. n., PRIESNER Treubia 12 1930.

Haplothrips review of African spp. pp. 230-274, key to subgen. p. 230, key to spp. p. 231, *clarisetis* S. Africa, Egypt p. 237, *fiebrigi* Paraguay p. 242, *talpa* Transvaal p. 243, *odontospermi* p. 250, *alexandrinus* p. 253, *eragrostidis* p. 256, *lomonias* p. 259, *ochradeni* p. 268, *andresi* p. 270 Egypt, (*Chiraplothrips* subgen. n.) *faureanus* p. 271, *minutulus* p. 272 S. Africa spp. n.; *tardus* p. 241, *cottei* p. 244, *pharao* p. 254 further descriptions; *retamae* End. from *Arrhenochiris* p. 260 figs., PRIESNER Bull. Soc. ent. Egypte 1930.—*H. armeriae* sp. n. Denmark p. 378, MALTBAEK Ent. Medd. 17.—*H. aculeatus* flight habits pp. 154-160, KÖRTING Z. angew. Ent. 18.—*H. tirumalraoi* sp. n. India p. 1038, RAMAKRISHNA AYYAR & MARGABANDHU J.

Bombay N.H. Soc. 34.—*H. panamensis* sp. n. Panama p. 11, WATSON Florida Ent. 15.—*H. euphorbiae* sp. n. Sumatra p. 1 figs., PRIESNER Misc. zool. sumat. 58.—*H. melaleucus, longisetis* see *Karnyothrips*.

Heliothrips kadaliphila sp. n. India p. 1033 figs., RAMAKRISHNA AYYAR & MARGABANDHU J. Bombay N.H. Soc. 34.—*H. aino* sp. n. Japan p. 34 fig., ISHIDA Ins. mats. 6.—*H. apicalis, ipomoeae* spp. n. Brazil p. 86 fig., BONDAR Arch. Inst. biol. S. Paulo 4.

Hemianaphothrips concinnus sp. n. S. Australia p. 245 figs., MORISON Bull. Ent. Res. 22.

Hoodothrips gen. n. (*Heliothripinae*) p. 83, *neivai* sp. n. Brazil p. 84 figs., BONDAR Arch. Inst. biol. S. Paulo 4.

Hoplandrothrips virago sp. n. New York p. 164 figs., HOOD Bull. Brooklyn Ent. Soc. 26.

Hoplothrips ulmi, pini characters pp. 375-377, MALTBAEK Ent. Medd. 17.

Karnyothrips melaleucus Bagn. p. 274, *longisetis* Bagn. p. 275 from *Haplothrips*, PRIESNER Bull. Soc. ent. Egypte 1930.

Leucothrips Reut. (= *Microthrips* Morg.); *nigripennis* Reut. (= *M. leucus* Herr.) p. 170, HOOD Pan-Pacific Ent. 7.—*L. piercei* Morg. from *Microthrips*; *nigripennis* Reut. (= *M. leucus* Herr.); *theobromae* Priesn. good sp.; *furcatus* sp. n. Fr. W. Indies p. 153, HOOD Bull. Brooklyn Ent. Soc. 26.

Limothrips cerealium flight habits pp. 154-160, KÖRTING Z. angew. Ent. 18.

Megalothrips picticornis Hood (= *Doccissophothrips animus* Moul.) p. 172, HOOD Pan-Pacific Ent. 7.

Mesopotamothrips gen. n. (nr. *Trichothrips*) p. 212, *concordiensis* sp. n. Argentina p. 213 figs., LIEBERMANN & GEMIGNANI Rev. Soc. ent. argent. 3.

Microthrips see *Leucothrips*.

Mycterothrips echii sp. n. Egypt p. 129, PRIESNER Bull. Soc. ent. Egypte 1931.

Mymarothrips garuda sp. n. India p. 1031 figs., RAMAKRISHNA AYYAR & MARGABANDHU J. Bombay N.H. Soc. 34.

Ocurothrips gen. n. (*Urothripidae*), *pulcher* sp. n. Australia p. 93 figs., PRIESNER Konowia 10.

Oxythrips ajugae new to N. America p. 153, HOOD Bull. Brooklyn Ent. Soc.

26.—*O. hemavarna* sp. n. India p. 1036, RAMAKRISHNA AYYAR & MARGABANDHU J. Bombay N.H. Soc. 34.

Phloeothrips oleae morphology, biology pp. 94-147 figs., DEL GUERCIO Redia 19.—*P. tandiliensis* sp. n. Argentina p. 214 figs., LIEBERMANN & GEMIGNANI Rev. Soc. ent. argent. 3.

Poecilothrips ornatus new to California p. 175, egg, larva p. 177, BAILEY Pan-Pacific Ent. 7.

Prosopothrips brunneus sp. n. Colorado p. 51, WATSON Florida Ent. 15.

Reticulothrips peringueyi new to India p. 1034, RAMAKRISHNA AYYAR & MARGABANDHU J. Bombay N.H. Soc. 34.

Rhipidothrips brunneus f. n. *macroptera* Siberia p. 90, SCALON Konowia 10.

Scolothrips asura sp. n. India p. 1035 fig., RAMAKRISHNA AYYAR & MARGABANDHU J. Bombay N.H. Soc. 34.

Selenothrips rubrocinctus new to India p. 1034, RAMAKRISHNA AYYAR & MARGABANDHU t.c.

Sericothrips tiliae sp. n. New York p. 151, HOOD Bull. Brooklyn Ent. Soc. 26.

Sitothrips gen. n. (*Thripidae*), *arabicus* sp. n. Egypt p. 127 figs., PRIESNER Bull. Soc. ent. Egypte 1931.

Taeniothrips gladioli sp. n. Canada p. 20 fig., MOULTON & STEINWEDEN Canad. Ent. 63.—*T. karafutensis* p. 56, *konumensis* p. 57, spp. n. figs., ISHIDA Ins. mats. 6.

Thrips thalictri sp. n. New York p. 154 figs., HOOD Bull. Brooklyn Ent. Soc. 26.—*T. tabaci* relation of life cycle to temperature and humidity pp. 574-583 figs., MACGILL Ann. Appl. Biol. 18.—*T. herricki* Bagn. (= *veratri* Hood, Herr.) p. 171, HOOD Pan-Pacific Ent. 7.

Treherniella amplipennis Morg. (= *orlando* Wats. & Osb.) from *Trichothrips* p. 172, HOOD t.c.

Trichothrips anomoceras further description; *flumenellus* sp. n. New York p. 159 figs., HOOD Bull. Brooklyn Ent. Soc. 26.—*T. hoernerii* sp. n. Colorado p. 52, WATSON Florida Ent. 15.—*T. amplipennis* see *Treherniella*.

Trypactothrips rutherfordi further description p. 1036, RAMAKRISHNA AYYAR & MARGABANDHU J. Bombay N.H. Soc. 34.

ANOPLURA.

Biology of German Anoplura, HASE Biol. Tiere Deutsch. Teil 30 58 pp. 59 figs.

Symbiosis in Anoplura, RIES Z. Morph. Oekol. Tiere 20 pp. 234-301, 321-367 figs.; Jber. schles. Ges. vaterl. Cultur 1930 pp. 35-38.

Haematomyzus transferred to Mallophaga, q.v.

Pediculus humanus blood-sucking and digestion pp. 265-269, 302-306, ARAKAWA Insect Wld. 35.—*P. atelo-philus* morphology pp. 488-491 figs., HINMAN Parasitology 23.

Heterogyropus costalimai sp. n. Brazil p. 21 figs., WERNECK Bol. biol. fasc. 18.—*H. amplexans* Neum. (= *costalimai* Wern.) p. 138, WERNECK op. cit. 19.

Lipeurus tropicalis sp. n. Bahamas p. 195 figs., PETERS Ent. News 42.

Otidocetus gen. n. (Philopteridae), *dimorphus* sp. n. Zululand p. 285 figs., BEDFORD Rep. Vet. Res. S. Afr. 17.

Otilipeurus gen. n. for *Esthioterum turmale* Nitzsch (type) p. 288, *kori* sp. n. Transvaal p. 289 figs., BEDFORD t.c.

Tetrophthalmus subtitian Mozambique, *africanus* Pretoria, *australis* New South Wales, spp. n. p. 236 figs., BEDFORD Parasitology 23.

Tricholipeurus antidorcus sp. n. S. Africa p. 283 figs., BEDFORD Rep. Vet. Res. S. Afr. 17.

MALLOPHAGA.

Additional Mallophaga from Ohio birds, GEIST Ohio J. Sci. 31 pp. 505-509.

Annotated list of Mallophaga collected in Ukraine, KISTIAKOWSKY Bull. Acad. Sci. Ukraine 2 1926 pp. 133-139.

Symbiosis in Mallophaga, RIES Z. Morph. Oekol. Tiere 20 pp. 234-246, 301-367 figs.; Jber. schles. Ges. vaterl. Cultur 1930 pp. 35-38.

Morphology of Mallophaga of *Gallus domesticus* 58 1928 pp. 644-660 figs.; of *Columba domestica* 61 1930 pp. 344-358 figs., ZUNKER Arch. wiss. prakt. Tierhkl.

Degeeriella falcigera Ohio p. 583, *austini* Labrador p. 585, spp. n. figs., PETERS Ann. Ent. Soc. Amer. 24.

Esthioterum turmale see *Otilipeurus*; *secretarium* see *Falcolipeurus*.

Falcolipeurus gen. n. for *Esthioterum secretarium* (type) Gieb. p. 290, *africanus* p. 291, *lineatus* p. 292, spp. n. S. Africa figs., BEDFORD Rep. Vet. Res. S. Afr. 17.

Haematomyzus from Anoplura p. 126, *elephantis* systematic history pp. 112-114, morphology pp. 115-125 figs., FERRIS Parasitology 23.

PSOCOPTERA.

Psocoptera of the Arctic Region, ARNDT Fauna Arctica 6 pp. 59-66.

New Psocoptera from Mozambique, BADONNEL Ann. Sci. nat. Zool. (10) 14 pp. 229-260, 35 figs.

List of Psocoptera of N. and N.E. France, BADONNEL Bull. Soc. zool. Fr. 56 pp. 98-112, 13 figs.

List of Psocoptera from E. Pyrenees, BADONNEL Bull. Soc. zool. Fr. 56 pp. 341-347, 5 figs.

Copeognatha of the Seychelles, ENDERLEIN Trans. Linn. Soc. London (2) Zool. 19 pp. 207-240, 3 pls. 52 figs.

Classification of the Psocoptera with keys to families, subfamilies and annotated list of genera, KARNY Treubia 12 1930 pp. 431-461.

Psocoptera of France, MARTIN Pseudo-Névropt & Névropt. [? 1931] pp. 147-154, 5 figs.

Psocoptera of Lorraine, NAVÁS Bro-téria, Sér. Zool. 27 p. 140.

Psocoptera from Mecklenburg, RA-BELER Arch. Ver. Fr. Naturges. Mecklenb., Rostock N.F. 5 pp. 45-50.

Amphigerontia boliviana sp. n. Bolivia p. 304 fig., NAVÁS Rev. chil. Hist. nat. 34 1930.

† *Anopistoscena* re-description p. 210 fig., ENDERLEIN Trans. Linn. Soc. Lond. (2) Zool. 19.

Caecilius voov p. 212, *vau* p. 213, *protitrus* p. 214, *crassicornis*, *seychellensis* p. 215, spp. n. Seychelles figs., ENDERLEIN t.c.—*C. glossopterus* p. 220, *p'sicensis* p. 232, *casarum* p. 234, spp. n. Mozambique figs., BADONNEL Ann. Sci. nat. (Zool.) (10) 14.—*C. simplex* p. 305, *rosor* p. 306, spp. n. Costa Rica figs., NAVÁS Rev. chil. Hist. nat. 34 1930.—*C. suffusus* sp. n. Argentina p. 320 fig., NAVÁS Rev. Soc. ent. argent. 3.—*C. analis* sp. n. Hawaii p. 437 figs., BANKS Proc. Hawaii. Ent. Soc. 1929-30 7.

Cryptophania gen. n. (Psocidae), *hirsuta* sp. n. Honolulu p. 440 figs., BANKS t.c.

Deipnopsocus spheciophilus var. n. *disparilis* England in Accra cacao p. 96, PEARMAN Ent. Mon. Mag. 67.

Dinopsocus see *Martynopsocus*.

Echmepteryx aesculanus p. 229, *maculimargo*, *hieroglyphica* p. 230, *acutipennis* p. 231, spp. n. Seychelles figs., ENDERLEIN Trans. Linn. Soc. Lond. (2) Zool. 19.—*E. costalis*, *marmorata*, *unicolor* spp. n. Hawaii p. 439 figs., BANKS Proc. Hawaii. Ent. Soc. 1929-30 7.

Ectopsocus perkinsi sp. n. Honolulu p. 438 fig., BANKS t.c.—*E. pumilus* further description p. 188 fig., BALL Mém. Soc. ent. Belg. 23.—*E. aethiops* var. n. *bakeri* Philippines p. 58, BANKS Psyche 38.—*E. striatellus* sp. n. Argentina p. 321, NAVÁS Rev. Soc. ent. argent. 3.—*E. mozambicus* sp. n. Mozambique p. 243 figs., BADONNEL Ann. Sci. nat. (Zool.) (10) 14.—*E. parvulus* biology pp. 457-486 figs., WEBER Z. wiss. Zool. 138.

Empheriella re-description p. 219 fig., ENDERLEIN Trans. Linn. Soc. Lond. (2) Zool. 19.

Gambrella gen. n. (Tapinellinae), *pilipennis* sp. n. Seychelles p. 221 fig., ENDERLEIN t.c.

Hageniella pusilla sp. n. Philippines p. 56, BANKS Psyche 38.

Hageniola gen. n. (Caeciliinae), *solitaria* sp. n. Hawaii p. 438 fig., BANKS Proc. Hawaii. Ent. Soc. 1929-30 7.

Kolbea fenestristigma sp. n. Seychelles p. 211 figs., ENDERLEIN Trans. Linn. Soc. Lond. (2) Zool. 19.

Lachesilla tectorum p. 238, *grandis* p. 240, *anura* p. 242, spp. n. Mozambique figs., BADONNEL Ann. Sci. nat. (Zool.) (10) 14.

Lepidopsocus ochreus, *fasciatus* spp. n. Seychelles p. 238 figs., ENDERLEIN Trans. Linn. Soc. Lond. (2) Zool. 19.

Lepinotus patruelis sp. n. England p. 47 figs., PEARMAN Ent. Mon. Mag. 67.

Lesneia gen. n. (nr. *Leptodella*) p. 247, *capensis* sp. n. Mozambique p. 248 figs., BADONNEL Ann. Sci. nat. (Zool.) (10) 14.

Liposcelis virgulatus Pearm. further described p. 249; *bostrychophilus* p. 250, *exiguus* p. 251, spp. n. Mozambique figs., BADONNEL t.c.

Lithentomum see *Lithopsocus*.

Lithopsocus n. n. for *Lithentomum* Mart. nec Scudder p. 446, KARNY Treubia 12 1930.

Loxopholia gen. n. (Lepidopsocinae), *pinnula* (type) p. 225, *nigra* p. 226, *argentofasciata*, *annulitibia* p. 227, *hebes* p. 228, spp. n. Seychelles figs., ENDERLEIN Trans. Linn. Soc. Lond. (2) Zool. 19.

Maheella gen. n. (Psocidae), *laeviodorsum* (type) p. 208, *angustifrons* p. 209, spp. n. Seychelles figs., ENDERLEIN t.c.

Martynopsocus n. n. for *Dinopsocus* Mart. nec Banks p. 446, KARNY Treubia 12 1930.

Nepticulomima scottiana sp. n. Seychelles p. 222 fig., ENDERLEIN Trans. Linn. Soc. Lond. (2) Zool. 19.

Nymphotroctes gen. n. (Pachytroctidae) p. 342, *denisi* sp. n. E. Pyrenees p. 344 figs., BADONNEL Bull. Soc. zool. Fr. 56.

Paracaecilius gen. n. (nr. *Caecilius*) p. 235, *berlandi* sp. n. Mozambique p. 237 figs., BADONNEL Ann. Sci. nat. (Zool.) (10) 14.

Phlotodes lichenosa sp. n. Seychelles p. 218 fig., ENDERLEIN Trans. Linn. Soc. Lond. (2) Zool. 19.

Pseudocaecilius brevicornis sp. n. Seychelles p. 212 fig., ENDERLEIN t.c.—*P. elutus* var. n. *africanus* Mozambique p. 230 fig., BADONNEL Ann. Sci. nat. (Zool.) (10) 14.

Psocatropos lesnei sp. n. Mozambique p. 254 figs., BADONNEL t.c.

Psocus dilutus sp. n. Argentina p. 320 fig., NAVÁS Rev. Soc. ent. argent. 3.—*P. opulentus* p. 303, *indigus* p. 304, spp. n. Costa Rica figs., NAVÁS Rev. chil. Hist. nat. 34 1930.—*P. varians* sp. n. Belgian Congo p. 131 fig., NAVÁS Rev. Zool. Bot. afr. 21.

Psylloneura williamsi sp. n. Hawaii p. 439 figs., BANKS Proc. Hawaii. Ent. Soc. 1929-30 7.

Ptenocorium gen. n. (Lepidopsocidae) p. 223, *alutaceum* sp. n. Seychelles p. 224 figs., ENDERLEIN Trans. Linn. Soc. Lond. (2) Zool. 19.

Rhaptoneura muscosa sp. n. Seychelles p. 218 fig., ENDERLEIN t.c.

Rosega gen. n. (Caeciliidae), *picta* sp. n. Belgian Congo p. 132 fig., NAVÁS Rev. Zool. Bot. afr. 21.

Scoliopsyllopsidae fam. n. type *Scoliopsyllopsis latreillei* End. p. 256, mouthparts p. 250 figs., BADONNEL Bull. Soc. zool. Fr. 56.

Scottiella gen. n. (Caeciliidae), *micans* (type) p. 216, *hirsuticornis*, *compta* p. 217, spp. n. Seychelles figs., ENDERLEIN Trans. Linn. Soc. Lond. (2) Zool. 19.

Stenotroctes minor sp. n. England in Accra cacao p. 95, PEARMAN Ent. Mon. Mag. 67.—*S. femoralis* sp. n. Mozambique p. 252 figs., BADONNEL Ann. Sci. nat. (Zool.) (10) 14.

Tagalopsocus hyalinus sp. n. Philip-pines p. 58, BANKS Psyche 38.

Thylacomorpha re-description p. 224 fig., ENDERLEIN Trans. Linn. Soc. Lond. (2) Zool. 19.

Thylacopsis dryas p. 232, *monticola* p. 233, *mahensis*, *psyche* p. 234, *scotti* p. 235, *fastigata*, *punctulata* p. 236, spp. n. Seychelles figs., ENDERLEIN t.c.

ISOPTERA.

Notes on the termites of Br. Columbia, BEALL Proc. Ent. Soc. Br. Columbia 28 pp. 33-35.

Notes on termites in the Belgian Congo, BURGEON Rev. Zool. Bot. afr. 20 pp. (100)-(113), 9 figs.

Symbiotic flagellates in Yugoslavian termites, GEORGEVITCH Glas. srpsk. kralj. Akad. 71 pp. 1-72, 4 pls. 3 figs.

Termite caste development, HEATH Science 73 p. 431.

Discussion of family names of termites, KARNY Treubia 12 1930 pp. 431-432.

The termites of Nevada, LIGHT Pan-Pacific Ent. 8 pp. 5-9.

List of Chinese termites, LIGHT Lingnan Sci. J. 7 pp. 583-600.

An attempt to classify species of termites from mandibles of workers and nymphs, NICHOLS J. Ent. Zool. 23 pp. 1-2.

List of nearly all Malayan termites with biological notes, PENDBURY Malayan For. Rec. no. 8 1930 pp. 45-56, 6 pls.

List of termites of China p. 549, of Indo-China p. 550, SNYDER Lingnan Sci. J. 7.

Wing venation of Mastotermitidae, TILLYARD Proc. Linn. Soc. N.S.W. 56 pp. 372-390, 1 pl. 8 figs.

Differentiation of castes in termites, WEYER Biol. Zbl. 51 pp. 353-373, 3 figs.

Calotermes rufinotum n. n. for *obscurus* Hill nec Wlk.; *oldfieldi* p. 207, *secundus* p. 215 Australia, *claripennis* p. 212, *arcanus* p. 214 Lord Howe I. spp. n.; *obscurus* p. 210, *iridipennis* p. 211 soldiers figs., HILL Proc. Roy. Soc. Vict. 37 1925.

Capritermes fuscotibialis sp. n. China p. 599, LIGHT Lingnan Sci. J. 7.—*C. sowerbyi* see *Procapritermes*.

Eutermes apiocephalus p. 216, *westraliensis* p. 217 further description; *peracutus* p. 219, *centraliensis* p. 221, *exitiosus* p. 222, *graveolus* p. 226 Australia spp. n. figs., HILL Proc. Roy. Soc. Vict. 37 1925.

Kalotermes sinensis see *Neotermes*.

Macrotermes barneyi nest p. 495 fig., MARCH Lingnan Sci. J. 10.

Neotermes sinensis Light from *Kalotermes* p. 585, LIGHT Lingnan Sci. J. 7.

Procapritermes sowerbyi Light from *Capritermes* p. 595, LIGHT t.c.

Reticulitermes arenicola sp. n. Indiana p. 228; *tibialis*, *arenicola*, *flavipes* field characteristics p. 233 figs., GOELLNER Proc. Ent. Soc. Wash. 33.

Esera caucasica sp. n. Caucasus p. 108, NAVÁS Broteria, Sér. Zool. 27.

Gripopteryx pirioni sp. n. Chile p. 354, NAVÁS Rev. chil. Hist. nat. 34 1930.

Isoperla marlynia sp. n. New Jersey p. 148, NEEDHAM & CLAASSEN Monog. Plecoptera N. Amer. 2 1925.—*I. monomona*, *isolata* spp. n. U.S.A. p. 322, BANKS Bull. Mus. Comp. Zool. Harvard 64 1920.

Javanita fascipennis sp. n. Malaya p. 378, BANKS J. F.M.S. Mus. 16.

Leuctra budtzi sp. n. Corsica p. 352 figs., ESBEN-PETERSEN Ent. Medd. (2) 4 1912.—*L. carinthiaca* identity discussed p. 341, ♂ p. 342 figs., MOSELY Ann. Mag. N.H. (10) 7.

Nemura monspessulana sp. n. S. France p. 233 figs., DESPAX Bull. Soc. Hist. nat. Toulouse 60 1930.—*N. vallicularia*, *sinuata* spp. n. Ithaca pp. 1-81 figs., WU Bull. Lloyd Lib., Cincinnati no. 23 1923 Ent. ser. no. 3; also NEEDHAM & CLAASSEN Monog. Plecopt. N. Amer. 2 1925 pp. 208, 215.—*N. lapazarani* sp. n. Spain p. 122 fig., NAVÁS Bol. Soc. ent. Esp. 14.—*N. pekinensis* sp. n. China p. 511 figs., CLAASSEN Lingnan Sci. J. 7.—*N. hotakana* sp. n. Central Japan p. 101 figs., UENO Annot. zool. jap. 13.—*N. valtoni* sp. n. Lorraine p. 141 fig., NAVÁS Broteria, Sér. Zool. 27.—*N. javanica* sp. n. Java p. 323, BANKS Bull. Mus. Comp. Zool. Harvard 64 1920.

Neoperla camposi sp. n. Ecuador p. 322, BANKS t.c.—*N. lujana* p. 135, *luluana* p. 136, spp. n. Belgian Congo figs., NAVÁS Rev. Zool. Bot. afr. 21.

Notoperla bovei sp. n. Chile p. 354 fig., NAVÁS Rev. chil. Hist. nat. 34 1930.

Ochthopetina transvaalensis further description p. 115 figs., TILLYARD Ann. S. Afr. Mus. 30.

Paragnetina tonkinensis further description p. 137, NAVÁS Broteria, Sér. Zool. 26 1930.—*P. burmana* sp. n. Burma p. 78, NAVÁS Rev. Acad. cien. Madrid 26.

Peltoperla biology, larva pp. 83-98 figs., LESTAGE Rec. Inst. zool. Torley-Rousseau 1 1927.—*P. naka* sp. n. Central Japan p. 100 fig., UENO Annot. zool. jap. 13.—*P. concolor* sp. n. Borneo p. 411, BANKS J. F.M.S. Mus. 16.

EMBIOPTERA.

Dihyobocercus raised to gen. rank, type *severini* End., scope, *spinosus* sp. n. Belgian Congo p. 134, NAVÁS Rev. Zool. Bot. afr. 21.

Embia femoralis sp. n. Belgian Congo p. 133, NAVÁS t.c.—*E. xanthocera* sp. n. Dancalia p. 152 fig., NAVÁS Ann. Mus. Genova 55.

Haploembia algerica sp. n. Grand Atlas p. 136 fig., NAVÁS Broteria, Sér. Zool. 26 1930.

PLECOPTERA.

Plecoptera of France, MARTIN Pseudo-Nérop. & Nérop. [?1931] pp. 155-164, 9 figs.

Plecoptera of Lorraine, NAVÁS Broteria, Sér. Zool. 27 pp. 140-142, 1 fig.

Discussion of S. African stone-flies, TILLYARD Ann. S. Afr. Mus. 30 pp. 109-112.

Alloperla fidelis sp. n. California p. 323, BANKS Bull. Mus. Comp. Zool. Harvard 64 1920.

Aphanicerca gen. n. (Nemouridae) p. 117, *capensis* (type) p. 119, *denticulata* p. 121, (*Aphanicerella* subgen. n. p. 124) *barnardi* p. 122 spp. n. S. Africa, figs., TILLYARD Ann. S. Afr. Mus. 30.

Aphanicerella subgen. n. see *Aphanicerca*.

Desmonemoura gen. n. (Nemouridae), *pulchellum* sp. n. S. Africa p. 126 figs., TILLYARD Ann. S. Afr. Mus. 30.

Diamphipnoa revision of S. American spp. pp. 266-275, key p. 268 figs., SÁMAL Stett. ent. Z. 92.

Perla verticalis, incesta U.S.A., *anamensis* Anam p. 318, *nirvana, carletoni* India p. 319, spp. n., BANKS Bull. Mus. Comp. Zool. Harvard **64** 1920.—*P. abdominalis* biology pp. 120–122 figs., MONOD Terre et la Vie, Paris 1931.

Perlodes yarizawana sp. n. Central Japan p. 99 figs., UENO Annot. zool. jap. **13**.

EPHEMEROPTERA (PLECTOPTERA).

Key to genera of Leptophlebiidae, LESTAGE Miss. biol. Belge Brésil (1922–23) 2 1930 p. 250.

Ephemeroptera of Chile, key p. 47, LESTAGE Bull. Ann. Soc. ent. Belg. **71** pp. 41–60, 5 figs.

Notes on certain Scandinavian Ephemeroptera recorded in Holland, LESTAGE Bull. Ann. Soc. ent. Belg. **71** pp. 85–91.

Ephemeroptera of France, MARTIN Pseudo-Névro. & Névro. [? 1931] pp. 127–143, 22 figs.

Circulation of blood in Ephemeroptera, MEYER Z. Morph. Oekol. Tiere **22** pp. 1–52, 38 figs.

Ephemeroptera new to the Polish fauna, MIKULSKI Fragm. faun. Mus. zool. polon. **1** pp. 323–325, 1 fig.

Ephemeroptera of Br. Guiana, MOSELY Entomologist **64** p. 170.

Ephemeroptera of Lorraine, NAVÁS Brotéria, Sér. Zool. **27** pp. 142–143.

Studies of New Zealand mayfly nymphs (key to famm. & genn. p. 410), PHILLIPS Trans. Ent. Soc. Lond. **79** pp. 399–422, 8 pls.

Metamorphosis of the alimentary canal in certain Ephemeroptera, PICKLES Trans. Ent. Soc. Lond. **79** pp. 263–274, 2 pls.

Key to Japanese mayfly nymphs, UENO Trans. Kansai Ent. Soc. **1** 1930 pp. 27–36, 14 figs.

Some notes on the mayfly fauna of Formosa, UENO Trans. N.H. Soc. Formosa **21** pp. 210–216.

Acentrella sinaica sp. n. Sinai pp. 197–202, 8 figs., BORGOSCO Bull. Acad. Roumaine, Bucarest **14**.—*A. japonica* see *Baetiella*.

Adenophlebia sinuosa sp. n. Zambesi p. 109, NAVÁS Brotéria, Sér. Zool. **27**.—*A. eatoni* p. 271, *elegantula* p. 272, *decorata* p. 273 **20**, *decora* p. 137 **21**, spp. n. Belgian Congo figs., NAVÁS Rev. Zool. Bot. afr. **20**.

Ameletopsis gen. n. for *Ameletus perscitus* Eat. p. 417, PHILLIPS Trans. Ent. Soc. Lond. **79**.

Ameletus sparsatus sp. n. Canada p. 89, McDUNNOUGH Canad. Ent. **63**.—*A. hessei* sp. n. France p. 25 figs., FIZAINE Bull. Soc. zool. Fr. **56**.—*A. perscitus* see *Ameletopsis*.

Atalophlebia athanasii p. 356, *anastasii* p. 357, *fenestrata, hyalina* p. 358, spp. n. Chile, NAVÁS Rev. chil. Hist. nat. **34** 1930.—*A. brieni* see *Massartella*.

Baetiella gen. n. for *Acentrella japonica* Iman. p. 220 figs., UENO Annot. zool. jap. **13**.

Baetis lacteus p. 154, *nakanoensi* p. 155, spp. n. [author and paper in Japanese], Insect World, Gifu **33** 1929.—*B. nigrescens* sp. n. Canary Is. p. 125 fig., NAVÁS Bol. Soc. ent. Esp. **14**.—*B. vaillanti* sp. n. China p. 121 fig., NAVÁS Brotéria, Sér. Zool. **27**.—*B. japonicus* sp. n. Japan p. 1472, MATSUMURA 6000 Ill. Ins. Japan, Tokyo 1931.—*B. thermicis* p. 91, *shinanonis* p. 93, spp. n. Central Japan; *bioculatus* L. (= *japonicus* Mats.) p. 220 figs., UENO Annot. zool. jap. **13**.

Baetisca characters p. 61, *carolina* p. 51, *callosa* p. 57, spp. n. U.S.A. figs., TRAYER J. N.Y. Ent. Soc. **39**.

Bleptus fasciatus nymph p. 195 figs., UENO Annot. zool. jap. **13**.

Brachycercus idei n. n. for *pallidus* Ide nec Tschern. p. 119, LESTAGE Bull. Ann. Soc. ent. Belg. **71**.

Caenis key, *hilaris* further description p. 255; *ridens* p. 256, *punctata* p. 259, *tardata, jocososa* p. 260, *forcipata* p. 262, *simulans* p. 263 spp. n. N. America figs., McDUNNOUGH Canad. Ent. **63**.—*C. axillata* sp. n. Chile p. 359, NAVÁS Rev. chil. Hist. nat. **34** 1930.

Callibaetis camposi Ecuador p. 18, *gregarius* Brazil p. 72, spp. n. figs., NAVÁS t.c.

[*Campsurus*] *Compsurus longicauda* Brazil p. 455, *pfeifferi* Argentina p. 457, spp. n. figs., NAVÁS Rev. Mus. paul. 17.

Centropitilum quaesitum, intermediale spp. n. Canada p. 87, McDUNNOUGH Canad. Ent. 63.—*C. rotundum* sp. n. Japan [p. ?], TAKAHASHI Lansania, Tokyo 1 no. 4 1929 [not seen].

Chiloporter gen. n. (Siphonuridae), *eatonii* sp. n. Chile p. 50, LESTAGE Bull. Ann. Soc. ent. Belg. 71.

Cinygma sapporense, suzukianum spp. n. Japan p. 1476, MATSUMURA 6000 Ill. Ins. Japan 1931; of doubtful status p. 192, UENO Annot. zool. jap. 13.

Cinygmoides gen. n. (Ecdyonuridae), *hekachii* sp. n. Japan p. 1477, MATSUMURA 6000 Ill. Ins. Japan 1931.—*C.* doubtful status p. 192, UENO Annot. zool. jap. 13.

Cloeon malpighian tubes pp. 1-18 figs., TIRELLI Boll. Mus. Zool. Anat. comp. Univ. Genova 9 1929 no. 30.—*C. bellum* sp. n. Belgian Congo p. 274, NAVÁS Rev. Zool. Bot. afr. 20.—*C. triangulifer* sp. n. Canada p. 88, McDUNNOUGH Canad. Ent. 63.—*C. cambouei* Madagascar p. 139 26 1930, *punctatum* Chad p. 122 27, spp. n. figs., NAVÁS Brotéria, Sér. Zool.—*C. dipterum* biology pp. 199-202, LESTAGE Bull. Ann. Soc. ent. Belg. 71.

Dictyosiphon gen. n. (Siphonuridae) for *Heptagenia molinae* Nav. p. 47 fig., LESTAGE t.c.

Dipteromimodes gen. n., *suzukii* sp. n. Japan p. 1474, MATSUMURA 6000 Ill. Ins. Japan, Tokyo 1931.—See *Dipteromimodes tipuliformis*.

Dipteromimodes tipuliformis MacL. (= *Dipteromimodes suzukii* Mats.) p. 212, nymph p. 216 figs., UENO Annot. zool. jap. 13.

Eatonica schoutedeni Nav. (= *Ephemera nimia* Nav., *Hexagenia illustris* Eat., *H. fulva* Esb.-Pet., *H. reticulata* Nav., *Pentagenia schoutedeni* Nav.) distribution p. 40, LESTAGE Bull. Ann. Soc. ent. Belg. 71.

Ecdyonurus tobiironis sp. n. Japan p. 75, TAKAHASHI Lansania, Tokyo 1 no. 5 1929 [not seen]; further description p. 200 figs., UENO Annot. zool. jap. 13.

Ecdyurus corsicus sp. n. Corsica p. 351 figs., ESBEN-PETERSEN Ent. Medd. (2) 4 1912.

Elassoneuria trimeniana ♀ p. 111 fig., NAVÁS Brotéria, Sér. Zool. 27.

Ephemera iwatensis, jezonica p. 1467, *kuccharonis, koshunensis* p. 1468, spp. n. Japan, MATSUMURA 6000 Ill. Ins. Japan 1931; discussed p. 191, UENO Annot. zool. jap. 13.—*E. axillaris* sp. n. China p. 138 fig., NAVÁS Brotéria, Sér. Zool. 26 1930.—*E. kirinensis* sp. n. China p. 40 figs., Hsü Peking N.H. Bull. 6 pt. 2.—*E. danica* Müll. nymph pp. 5-13, a synonym or var. of *vulgata* L. p. 98 figs., SÁMAL Acta Soc. ent. Čech. 27 1930.—*E. nimia*, see *Eatonica schoutedeni*.

Ephemerella key to and descriptions of nymphs of *bicolor* group pp. 30-67, eastern N. American nymphs pp. 187-197, 201-216, key p. 190, *prudentialis* p. 40, *minimella* p. 63, *aestiva* p. 64, *cornutella* p. 82, *serratoidea* p. 83, *subvaria* p. 84 spp. n. Canada; *rotunda* Morg. (= *feminina* Needh., *vernalis* Banks) p. 195; *lata* Morg. (= *inflata* McD.) p. 211; *needhami* McD. (= *bispina* Needh. nymph nec adult) p. 202; *fuscata* Wlk. (= *bispina* Needh. adult nec nymph) p. 214 figs., McDUNNOUGH Canad. Ent. 63.—*E. cornuta* p. 28, *deficiens* p. 30, *dorothea* p. 31, *rotunda* p. 32, *septentrionalis* p. 34 nymphs, subimagos, imagos pp. 27-35 fig., STEGER Psyche 38.—*E. feminina* sp. n. U.S.A. p. 309, NEEDHAM Psyche 31 1924.

Eurycaenis prudens sp. n. Saskatchewan p. 264, McDUNNOUGH Canad. Ent. 63.

Heptagenia umbratica, rusticalis spp. n. Canada p. 92, McDUNNOUGH Canad. Ent. 63.—*H. molinae* see *Dictyosiphon*.

Hexagenia keys to N. American pp. 611-613, nymphs pp. 614-619, *elegans* p. 594, *mingo* p. 597, *marilandica* p. 599, *carolina* p. 601, *weewa* p. 605, *rosacea* p. 607, *orlando* p. 608, spp. n. U.S.A., key to males p. 611 figs., TRAVER Ann. Ent. Soc. Amer. 24.—*H. recurvata* function of gills p. 79, MORGAN & GRIERSON Anat. Rec. 51 suppl.—*H. illustris, fulva, reticulata* see *Eatonica schoutedeni*.

Iron nipponicus sp. n. Central Japan p. 97, fig., UENO Annot. zool. jap. 13.

Isonychia key p. 157, *georgiana* p. 159, *rufa* p. 162 spp. n.; *secca* var. n. *campestris* p. 161 U.S.A.; *manca* a var. of *secca* p. 160 figs., McDUNNOUGH Canad. Ent. 63.

Kageronia gen. n. (Ecdyonuridae),
suzukiella sp. n. Japan p. 1479, MAT-
 SUMURA 6000 Ill. Ins. Japan 1931.—
K. of doubtful status p. 192, UENO
 Annot. zool. jap. 13.

Leptohyphes bruchi sp. n. Argentina
 p. 322 fig., NAVÁS Rev. Soc. ent. argent.
 3.

Massartella gen. n. for *Atalophlebia*
brieni Lest. further description p. 251
 fig., LESTAGE Miss. biol. Belge Brésil
 (1922-23) 2 1930.

Oreianthus gen. n. (Ephemerinae)
 p. 104, *purpureus* sp. n. N. Carolina
 p. 105 figs., TRAVER Canad. Ent. 63.

Paegniodes fukienensis sp. n. China p.
 39 figs., HSÜ Peking N.H. Bull. 6 pt. 2.

Pentagenia schoutedeni see *Eatonica*.

Potamanthodes formosus Etn. (= *Potamanthus iyonis* Mats.) p. 191, UENO
 Annot. zool. jap. 13.

Potamanthus iyonis sp. n. Japan p.
 1469, MATSUMURA 6000 Ill. Ins. Japan
 1931.—See *Potamanthodes formosus*.

Pseudiron gen. n. (nr. *Siphonplecton*),
centralis sp. n. Canada p. 91, McDUN-
 NOUGH Canad. Ent. 63.

Pseudocloeon cingulatum p. 79, *rubro-*
laterale, *futile* p. 86, spp. n. Canada,
 McDUNNOUGH t.c.

Rhithrogena eatoni sp. n. Corsica p.
 352, ESBEN-PETERSEN Ent. Medd. (2)
 4 1912.

Siphonisca grandiosa sp. n. Japan p.
 1475, MATSUMURA 6000 Ill. Ins. Japan,
 Tokyo.—*S.* see *Siphonurus binotatus*.

Siphonurus autumnalis p. 89, *inflatus*
 p. 90, spp. n. Canada, McDUNNOUGH
 Canad. Ent. 63.—*S. fazi* sp. n. Chile p.
 360, NAVÁS Rev. chil. Hist. nat. 34
 1930.—*S. maculosus* sp. n. Japan p. 114,
 MATSUMURA Insect Wld., Gifu 34 1930
 [not seen].—*S. binotatus* Etn. (= *macu-*
losus Mats., *Siphonisca grandiosa* Mats.)
 p. 205 fig., UENO Annot. zool. jap. 13.

Siphylurus linnaeanus new to Britain,
 genitalia fig. p. 91, MOSELY Entomolo-
 gist 64.

Thraulius budtzi sp. n. Corsica p. 349
 figs., ESBEN-PETERSEN Ent. Medd. (2)
 4 1912.—*T. albertanus* sp. n. Canada
 p. 82, McDUNNOUGH Canad. Ent. 63.

Tricorythodes allectus status discussed
 p. 264; *atratus* p. 265, *explicatus*
 further description; *stygiatus* sp. n.
 Quebec p. 267 figs., McDUNNOUGH t.c.

ODONATA (PARANEUROPTERA).

List of Odonata of the Crimea,
 ARTOBOLLEVSKIÏ Bull. Soc. Nat. Crimée
 11 1929 pp. 139-150, 1 fig.

Ecological notes on Odonata collected
 at Teberda, N. Caucasus, ARTOBOLLEV-
 SKIÏ Trav. Sta. biol. Caucase Nord 3
 1930 pp. 33-43.

List of Swedish Odonata, ANDER Z.
 wiss. InsektBiol. 26 pp. 81-83.

Odonata of Bornholm, Denmark,
 ANDER Ent. Medd. 17 pp. 366-368.

Annotated list of Odonata of W.
 Caucasia, BARTENEV Arb. Nord-Kauk.
 Assoc. wiss. Inst. 72 1930 Lief. 14 pp.
 1-138, 3 pls.

Biological grouping of Odonata of
 European Russia, BARTENEV Rev. zool.
 russe 10 no. 4 1930 pp. 57-131.

Odonata of Florida, BYERS Univ.
 Florida Pub., Biol. Sci. Ser. 1 no. 1 1930
 327 pp. 11 pls. 19 figs.

Coenagrioninae from Formosa, CHÛJÔ
 Trans. N.H. Soc. Formosa 21 pp. 18-50,
 28 figs.

Formosan dragonflies (1), CHÛJÔ
 Trans. N.H. Soc. Formosa 21 pp. 326-
 329.

List of Odonata from Santa Clara,
 Cuba, DOW Proc. Biol. Soc. Wash. 44
 pp. 55-60.

Indian dragonflies, XXXVI-
 XXXVIII, FRASER J. Bombay N.H.
 Soc. 34 pp. 965-972, 7 figs.; 35 pp. 66-
 76, 1 pl. 2 figs.

Migration of Odonata in France,
 JEAN-JEAN Bull. Soc. Sci. nat. Nîmes
 46 1928-29 pp. 119-123.

Notes on some Odonata from Man-
 galum I., N.W. Borneo, LAIDLAW Bull.
 Raffles Mus. 5 pp. 90-92.

A list of the dragonflies of the Malay Peninsula, LAIDLAW J. F.M.S. Mus. **16** pp. 175-233, 6 figs.

Revised list of dragonflies of Borneo, LAIDLAW J. F.M.S. Mus. **16** pp. 234-250.

Odonata of Nias I., LIEFTINCK Misc. zool. sumat. **59** 6 pp. 1 map.

List of Br. Somaliland Odonata, LONGFIELD Entomologist **64** pp. 274-277.

Notes on British Odonata in 1930, LUCAS Entomologist **64** pp. 175-179.

Odonata of Rottnest I., Australia, MATHEWS J. Roy. Soc. W. Aust. **16** 1930 pp. 41-43.

Odonata of France, MARTIN Pseudo-Névrolog. & Névrolog. [?1931] pp. 1-126, 61 figs.

Records of Indiana dragonflies, MONTGOMERY Proc. Indiana Acad. Sci. **40** pp. 347-349.

Biology of N.E. German Odonata, MÜNCHBERG SitzBer. Ges. naturf. Fr. Berl. 1930 pp. 205-234.

Odonata of Lorraine, NAVÁS Bro-téria, Sér. Zool. **27** p. 138.

Odonata of Hainan, NEEDHAM Lingnan Sci. J. **10** pp. 223-232, 10 figs.

Additions and corrections to the manual of the dragonflies of China, NEEDHAM Peking N.H. Bull. **5** pt. 4 pp. 1-10, 1 pl. 2 figs.

Odonata of Glamorgan, NORTON Trans. Cardiff Nat. Soc. **62** pp. 73-75.

Comparative morphology and possible adaptations of the abdomen in the Odonata, WHEDON Trans. Amer. Ent. Soc. **44** 1918 pp. 373-437, 9 pls.

Common names for dragonflies, WILLIAMSON Ent. News **42** pp. 46-50.

Acrogomphus minor sp. n. Selangor, Siam p. 215, LAIDLAW J. F.M.S. Mus. **16**.

Aeschna viridis records in Holland pp. 209-212, GEIJSKES Ent. Ber. **8**.—*A. coerules* in Carinthia p. 62, WERNER Carinthia II, Klagenfurt **39-40**; physiology of wing-muscles pp. 1-31 figs., HEIDERMANNS Zool. Jahrb. Allg. Zool. **50**.—*A. subarctica* in Denmark p. 337 figs., ESBEN-PETERSEN Ent. Medd. **17**.

Aethiothemis mediofasciata sp. n. Angola p. 106, RIS Rev. suisse Zool. **38**.

Agriocnemis alcyone sp. n. Borneo p. 249, LAIDLAW J. F.M.S. Mus. **16**.

Agriion ponticum sp. n. W. Caucasia p. 65 figs., BARTENEV Arb. Nord-Kauk. Assoc. wiss. Inst. **72** 1930 Lief. 14.

Anisogomphus orites [Laidl. (= *Davidius stevensi* Fras.) p. 185, LAIDLAW Trans. Ent. Soc. London **78** 1930.

Archilestes grandis in Ohio p. 63, WILLIAMSON Ent. News **42**; p. 64, COTTERMAN t.c.

Burmogomphus seimundi sp. n. Pahang p. 212, LAIDLAW J. F.M.S. Mus. **16**.

Calicnemis miniata further description p. 8, NEEDHAM Peking N.H. Bull. **5** pt. 4.

Ceriagrion pendleburyi sp. n. Perak p. 198 fig., LAIDLAW J. F.M.S. Mus. **16**.

Ceylonosticta gen. n. for *Platysticta hilaris* Selys (type) p. 329, *P. montana* Sel. p. 331, *P. tropica* Sel. p. 332, *P. digna* Sel. p. 333; *nietneri* p. 334, *lankanensis, walli* p. 335 spp. n. Ceylon figs., FRASER J. Bombay N.H. Soc. **35**.

Coelliccia octogesima r. n. *albicauda* Malay p. 5, FÖRSTER in LAIDLAW Fasciculi Malayenses Zool. pt. IV, Odonata pt. II 1907.—*C. nigrescens* sp. n. Siam p. 196 fig., LAIDLAW J. F.M.S. Mus. **16**.

Cordulegaster revision of Palaearctic spp. pp. 1-32, key p. 16, *magnificus* p. 8, *mzymtae* p. 12 spp. n. S. Europe; *insignis* var. n. *lagodechicus* Algeria p. 14 figs., BARTENEV Trav. Sta. biol. Caucase Nord **3** 1930.—*C. mzymtae* sp. n. W. Caucasia p. 46, BARTENEV Arb. Nord-Kauk. Assoc. wiss. Inst. **72** 1930 Lief. 14.

Coryphagrion grandis ♂ p. 215 figs., KIMMINS Ann. Mag. N.H. (10) **7**.

Davidius trox sp. n. China p. 4 fig., NEEDHAM Peking N.H. Bull. **5** pt. 4.—*D. stevensi* sp. n. India pp. 61, 330, FRASER J. Bombay N.H. Soc. **29** 1923; see *Anisogomphus orites*.

Drepanosticta polychromatica sp. n. India p. 338, FRASER J. Bombay N.H. Soc. **35**.—*D. pan* Perak p. 185, *hamadryas* Pahang p. 187, spp. n., LAIDLAW J. F.M.S. Mus. **16**.

Dythemis rufinervis new to U.S.A. p. 143, BYERS Univ. Florida Ent., Biol. Sci. Ser. **1** no. 1 1930.

Enallagma cardenium nymph p. 194, BYERS t.c.—*E. cyathigerum* var. n. *rotundatum* W. Caucasia p. 63 fig., BARTENEFF Arb. Nord-Kauk. Assoc. wiss. Inst. 72 1930 Lief. 14.—*E. basidens* nymph p. 276 figs., BIRD Ent. News 42.—*E. somalicum* sp. n. Somaliland p. 277 figs., LONGFIELD Entomologist 64.—*E. minutum* sp. n. Angola p. 102 figs., RIS Rev. suisse Zool. 38.

Epophthalmia revision pp. 21–68, key p. 29, larvae pp. 69–80; *vittata* subsp. n. *sundana* Netherland E. Indies p. 61 figs., LIEFTINCK Treubia 13.

Gomphus pallidus nymph p. 63, BYERS Univ. Florida Pub., Biol. Sci. Ser. 1 no. 1 1930.—*G. flavipes* var. n. *lineatus* W. Caucasia p. 50, BARTENEFF Arb. Nord-Kauk. Assoc. wiss. Inst. 72 1930 Lief. 14.—*G. hoffmanni* sp. n. Hainan p. 227 fig., NEEDHAM Lingnan Sci. J. 10.—*G. succumbens*, *citimus*, *latus* p. 2, *flavicornis* p. 3, spp. n. China figs., NEEDHAM Peking N.H. Bull. 5 pt. 4.—*G. cyanofrons* sp. n. India pp. 62, 330, FRASER J. Bombay N.H. Soc. 29 1923; see *Perissogomphus stevensi*.

Gynacantha risi sp. n. Perak p. 205 fig., LAIDLAW J. F.M.S. Mus. 16.

Hetaerina titia nymph p. 162 fig., BYERS Univ. Florida Pub., Biol. Sci. Ser. 1 no. 1 1930.

Ichnura formosanus sp. n. Formosa p. 23 figs., CHŪJŌ Trans. N.H. Soc. Formosa 21.

Labrogomphus gen. n. (nr. *Macrogomphus*) p. 224, *torvus* sp. n. Hainan p. 225 figs., NEEDHAM Lingnan Sci. J. 10.

Lestes tenuatus new to U.S.A. p. 165, BYERS Univ. Florida Pub., Biol. Sci. Ser. 1 no. 1 1930.—*L. viridis* subsp. n. *parvidens* Crimea p. 141 fig., ARTOBOLLEVSKIĖ Bull. Soc. Nat. Crimée 11 1929.

Leucorrhinia circassica sp. n. W. Caucasia p. 19 figs., BARTENEFF Arb. Nord-Kauk. Assoc. wiss. Inst. 72 1930 Lief. 14.

Lindenia inkiti sp. n. W. Caucasia p. 50 fig., BARTENEFF t.c.

Merogomphus femoralis sp. n. Selangor p. 210, LAIDLAW J. F.M.S. Mus. 16.

Micromerus phaethon sp. n. Borneo p. 245, LAIDLAW t.c.

Neogomphoides ambigua new to U.S.A. p. 46, BYERS Univ. Florida Pub., Biol. Sci. Ser. 1 no. 1 1930.

Oligoclada walkeri sp. n. Trinidad p. 213, GEIJSKES Ent. Ber. 8.

Orthetrum sabina var. n. *nigrescens* W. Caucasia p. 16, BARTENEFF Arb. Nord-Kauk. Assoc. wiss. Inst. 72 1930 Lief. 14.

Palaeonema revision pp. 1–111, generic characters p. 9, distribution p. 18, classification p. 22, key p. 24, *paulirica* p. 32, *distadens* p. 35, *gigantula* p. 72, *reventazoni* p. 85, *chiriquita* p. 100 Costa Rica, *paulicoba* p. 45, *paulitoiyaca* p. 47, *paulicaxa* p. 54, *paulitaba* p. 56 Mexico, *mutans* Venezuela p. 63, *brucei* Panama, Colombia p. 75, *azupizui* Peru p. 78, *croceicauda* p. 96, *edmondi* p. 99 Colombia spp. n.; *apicalis* further description p. 81 figs., CALVERT Trans. Amer. Ent. Soc. 57.

Pantala flavescens distribution pp. 471–488 map, BARTENEFF Zool. Jahrb., Syst. 60.

Pericnemis triangularis sp. n. Borneo p. 248, LAIDLAW J. F.M.S. Mus. 16.

Perissogomphus stevensi Laidl. (= *Gomphus cyanofrons* Fras.) p. 187, LAIDLAW Trans. Ent. Soc. London 78 1930.

Perithemis revision 50 pp., key p. 11, *electra* sp. n. Honduras, Colombia etc. p. 33 figs., RIS Misc. Pub. Univ. Michigan Mus. Zool. no. 21 1930.—*P. seminole* nymph p. 131, BYERS Univ. Florida Pub., Biol. Sci. Ser. 1 no. 1 1930.

Phyllogomphus coloratus sp. n. W. Africa p. 217 figs., KIMMINS Ann. Mag. N.H. (10) 7.

Platycnemis pennipes embryology pp. 193–200 figs., SEIDEL Verh. Deutsch. zool. Ges. 34.

Platysticta hilaris, *montana*, *tropica*, *digna* see *Ceylonosticta*.

Protosticta gravelyi Laidl. (= *stevensi* Fras.) p. 69, *davenporti* p. 70, *uncatus* p. 75 spp. n. India; *mortoni* Fras. (= *gravelyi* Laidl. ♀) p. 72; *himalaica* Laidl. (= *lindgreni* Fras.) p. 74, FRASER J. Bombay N.H. Soc. 35.

Pseudagrion inconspicuum sp. n. Angola p. 98 fig., RIS Rev. suisse Zool. 38.

Pseudolestes mirabilis ♂ wings fig. p. 230, NEEDHAM Lingnan Sci. J. 10.

Rhinocypha spinifer p. 241, *aurofulgens* p. 242, spp. n. Borneo, LAIDLAW J. F.M.S. Mus. 16.

Somatochlora sahlbergi redescription pp. 42-47, larva pp. 47-50 figs., VALLE Notul. ent. 11.—*S. hineana* sp. n. U.S.A. p. 1 figs., WILLIAMSON Occ. Pprs. Mus. Zool. Univ. Michigan no. 225.

Sympetrum spp. phylogeny and pairing pp. 347-360, BARTENEV Zool. Jahrb., Syst. 61.

Taeniogaster fasciatus nymph p. 86, BYERS Univ. Florida Pub., Biol. Sci. Ser. 1 no. 1 1930.

Trithemis monardi sp. n. Angola p. 108 fig., RIS Rev. suisse Zool. 38.

DERMAPTERA.

Dermaptera collected in Korinchi, W. Sumatra by Messrs. H. C. Robinson & C. Boden Kloss, J. F.M.S. Mus. 8 p. 218.

Studies on Dermaptera of Omsk, W. Siberia, BEI-BIENKO Bull. Plant Prot., Ent. 1 1930 p. 165.

Annotated list of Dermaptera of S. India, BORELLI Rev. suisse Zool. 38 pp. 289-308, 12 figs.

Dermaptera of Vancouver I., Br. Columbia, BUCKELL Proc. Ent. Soc. Br. Columbia no. 27 1930 pp. 21-25.

Forficulidae from Fiji, CAUDELL Univ. Iowa Studies 12 no. 3 1927 pp. 1-7 fig.

Forficulidae from New Zealand, CAUDELL Univ. Iowa Studies 12 no. 3 1927 pp. 16-17.

Dermaptera from Dominican Republic, MENOZZI Boll. Lab. Zool. Portici 25 pp. 321-326, 5 figs.

List of Dermaptera of the Crimea, STSCHERBAKOV Bull. Soc. Nat. Crimée 2 1913 pp. 122-127.

Anisolabis pallipes p. 93, *fallax*, *piceus* p. 94, spp. n. Japan figs., SHIRAKI Trans. Sapporo N.H. Soc. 1 1906.—*A. tegminata* sp. n. Fiji p. 4, CAUDELL Univ. Iowa Studies 12 no. 3 1927.

Chaetospania stoneri sp. n. Fiji p. 5 fig., CAUDELL t.c.

Cranopygia tumida sp. n. Nilgiri p. 291, BORELLI Rev. suisse Zool. 38.

Echinosoma rufomarginatum sp. n. S. India p. 293 fig., BORELLI t.c.

Euborellia flavipes p. 258, *inermis* p. 259, spp. n. Brazil figs., MOREIRA Rev. Ent. S. Paulo 1.

Forficula auricularia flight p. 10, POULTON Proc. Ent. Soc. Lond. 6.

Isohyge gen. n. p. 492, *madagascariensis* sp. n. Madagascar p. 493 figs., BORELLI Bull. Mus. Paris (2) 3.

Labia castanea see *Strongylopsalis pheringi*.

Labidurodes nigrilus Japan p. 91, *formosanus* Formosa p. 92, spp. n. figs., SHIRAKI Trans. Sapporo N.H. Soc. 1 1906.

Nannisolabis punctulata (with var. n. *rufa* p. 262) sp. n. Brazil p. 261 fig., MOREIRA Rev. Ent. S. Paulo 1.

Psalis brasiliensis p. 260, *minima* p. 261, spp. n. Brazil figs., MOREIRA t.c.

Pseudochelidura sinuata eggs, maternal instinct pp. 119-120, GADEAU DE KERVILLE Bull. Soc. ent. Fr. 1931.

Spongovostox carli p. 303, *escheri* p. 305, spp. n. S. India figs., BORELLI Rev. suisse Zool. 38.

Strongylopsalis pheringi Rehn (= *Labia castanea* MOR.) p. 263, MOREIRA Rev. Ent. S. Paulo 1.

ORTHOPTERA.

Orthopterous fauna of Bornholm, Denmark, ANDER Ent. Medd. 17 pp. 348-365.

Distribution of Swedish Orthoptera, ANDER Konowia 10 pp. 40-46.

Orthoptera from Omsk, W. Siberia, BEI-BIENKO Bull. Plant Prot., Ent. 1 1930 pp. 165-175.

List of Orthoptera of the Teniso-Kurgaldjine expedition, BEI-BIENKO Izv. W. Siberian Sect. Russ. Geogr. Soc. 7 1930 pp. 160-161.

Orthoptera from Semipalatinsk, BEĬ-BRENKO Izv. W. Siberian Sect. Russ. Geogr. Soc. 7 1930 pp. 189-214, 4 figs.

Orthoptera from N. Korea, BEĬ-BIENKO Bol. Soc. esp. Hist. nat. 31 pp. 673-678, 2 figs.

Orthoptera of Vancouver I., Br. Columbia with keys, BUCKELL Proc. Ent. Soc. Br. Columbia no. 27 1930 pp. 25-51.

Orthoptera from Fiji, CAUDELL Univ. Iowa Studies 12 no. 3 1927 pp. 7-16, 1 fig.

Orthoptera from New Zealand, CAUDELL Univ. Iowa Studies 12 no. 3 1927 pp. 17-22.

Cavernicolous Orthoptera from N. America, CHOPARD Arch. Zool. exp. gén. 71 pp. 389-401, 12 figs.

Orthoptera new to Poland, DEMEL Arch. Biol. Soc. Sci. Varsovie 1 no. 7 1922 pp. 1-4.

Some Orthoptera from Mallorca, EBNER Bol. Soc. esp. Hist. nat. 31 pp. 497-503, 3 figs.

Notes on Orthoptera of Hohentwiel, FABER Veröffentl. Staadtl. Stelle Natursch. Heft 7 pp. 88-91 in Jhft. Ver. vaterl. Naturk. Württemberg 86 1930.

Eye-markings and relation between faceted eye and hypodermis of Orthoptera, FRIZA Z. vergl. Physiol. 8 1928 pp. 289-336, 25 figs.

Orthoptera of Bonin Is., FURUKAWA Bull. Biogeogr. Soc. Japan 1 1930 pp. 227-237.

Orthoptera of Glamorgan, HALLETT Trans. Cardiff Nat. Soc. 62 pp. 70-72.

Orthoptera from the Bolivian Chaco, HEBARD Konowia 10 pp. 257-285, 1 pl. 2 figs.

List of Orthoptera from S. Arabia and Sokotra I., KRAUSS Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931 pp. 1-30, 2 pls.

Notes on British Orthoptera in 1930, LUCAS Entomologist 64 pp. 121-123.

Ecology, history, distribution and biology of Orthoptera of Graubünden, Switzerland, NADIG Jber. naturf. Ges. Graubünden (N.F.) 69 pp. 83-149, 1 graph.

Biology of cavernicolous Orthoptera, REMY Ann. Sci. nat. (Zool.) (10) 14 pp. 263-274.

Literature of Argentine Orthoptera, ROSAS COSTA Mem. Jardin zool. La Plata 2 1930 pp. 62-91.

Orthopterous fauna of Cyrenaica, SALFI Boll. Zool. 1 1930 pp. 55-59.

Notes on some spp. of Orthoptera in the collection of the Laboratório de Biologia Forestal, Portugal, DE SÁ VARGAS Arq. Secc. Biol. Paras. Univ. Coimbra 1 1930 pp. 283-306.

Distribution of Orthoptera in U.S.S.R., III, TARBINSKY Bull. Inst. Contr. Pests Dis. 1 pp. 159-164.

Orthoptera of Wojewodschafft, Poland, URBAŃSKI Polsk. Pismo ent. 10 pp. 50-59.

Additions to Netherlands Orthoptera, IV, WILLEMSE Natuurh. Maandbl. 20 pp. 79-80, 84-89, 97-98, 19 figs.

Notes on some Orthoptera in Germany, ZEUNER Mitt. deuts. ent. Ges. 2 pp. 75-78.

Orthoptera of Tessin, Switzerland, ZEUNER Deuts. ent. Z. 1931 pp. 29-36.

BLATTIDAE.

Notes on immigrant Blattidae in the United States, CAUDELL Ent. News 42 p. 204.

On a collection of Malayan Blattidae from the British Museum (Nat. Hist.), HANITSCH Ann. Mag. N.H. (10) 7 pp. 385-408, 12 figs.

Blattidae of the Japanese Empire, SHIRAKI Ins. mats. 5 pp. 171-209, 20 figs.

Abrodiaeta see *Allacta*.

Allacta Sauss. & Zehnt. (= *Abrodiaeta* Brun. 1893 nec 1891) discussed p. 300, REHN Trans. Amer. Ent. Soc. 57.

Anaplecta ruficollis ♂; *arisanica* p. 206, *simplex* p. 207, spp. n. Formosa figs., SHIRAKI Ins. mats. 5.

Anaplectella aurea sp. n. Singapore p. 387, HANITSCH Ann. Mag. N.H. (10) 7.

Apsidopsis cyclops measurements p. 394, HANITSCH t.c.

Blaberus minor Sauss. (= *fraterna* Sauss.) p. 261, HEBARD Konowia 10.

Blatta mellea sp. n. S. Arabia p. 1, KRAUSS Anz. Akad. Wiss. Wien 7 1902.—*B. andrewsi* sp. n. Christmas I. p. 398 fig., HANITSCH Ann. Mag. N.H. (10) 7.

Blattella aterrima sp. n. India p. 391, HANITSCH t.c.—*B. germanica* life-history pp. 84–92 fig., Ross Trans. Illinois Acad. Sci., Springfield 21 1929.

Chorisoneura atriceps sp. n. locality unknown p. 404, HANITSCH Ann. Mag. N.H. (10) 7.

Corydia zonata var. n. *taitoensis* Formosa p. 176, SHIRAKI Ins. mats. 5.

Diploptera nigrescens sp. n. Formosa p. 174 fig., SHIRAKI t.c.

Epilampra karnyi p. 186, *humeralis* p. 187, spp. n. Formosa fig., SHIRAKI t.c.—*E. catori* p. 395, *everetti* p. 396, spp. n. Borneo figs., HANITSCH Ann. Mag. N.H. (10) 7.

Eurycotis biolleyi sp. n. Costa Rica p. 321, REHN Trans. Amer. Ent. Soc. 44 1918.

Ischnoptera borellii G.-T., *vilis* Sauss. good spp. p. 258 figs., HEBARD Konowia 10.—*I. furcata* p. 190, *yoshinoe* p. 191 (with var. n. *brevielytra*), *asymmetrica* p. 192, *acuminata* p. 195, *yashiroi* p. 196 spp. n. Formosa; *striata* further description p. 194 figs., SHIRAKI Ins. mats. 5.—*I. formosana* see *Periplaneta karnyi*; *falcifera* see *Symploce*.

Kuchinga nimbata see *Margattea*.

Mareta contigua new to Christmas I.; *stellata* re-description p. 388 figs., HANITSCH Ann. Mag. N.H. (10) 7.

Margattea nimbata Shelf. from *Kuchinga* p. 392, HANITSCH t.c.—*M.* discussed p. 302 fig., REHN Trans. Amer. Ent. Soc. 57.

Neoblattella radificera see *Symploce*.

Periplaneta arisanica p. 180, *apicalis* p. 181, *sonani* spp. n. Formosa; *karnyi* n. n. for (*Ischnoptera*) *formosana* Kuw. 1915 p. 102 nec p. 96 figs., SHIRAKI Ins. mats. 5.—*P. floweri* Bangkok p. 400, *banksi* Philippines p. 401, spp. n., HANITSCH Ann. Mag. N.H. (10) 7.

Perisphaeria inaequalis sp. n. Borneo p. 405 figs., HANITSCH t.c.

Phyllodromia kumamotonis Japan p. 198, *kotoshoensis* p. 199, *flavomarginata* p. 200, *ogatai*, *punctulata* p. 202, *niitakana* p. 204 Formosa, spp. n. figs., SHIRAKI Ins. mats. 5.

Protagonista laeta sp. n. Singapore p. 401, HANITSCH Ann. Mag. N.H. (10) 7.

Pseudoglomeris planiuscula measurements; *wellingtoni* sp. n. Sarawak p. 407, HANITSCH t.c.

Pseudoholocampsa gen. n., *formosana* sp. n. Formosa p. 176 fig., SHIRAKI Ins. mats. 5.

Pycnoscelus micropterus sp. n. Sarawak p. 402 fig., HANITSCH Ann. Mag. N.H. (10) 7.

Scalida brunnea sp. n. locality unknown p. 392, HANITSCH t.c.

Stictolampra pascoei sp. n. Banjak I., Sumatra p. 397 fig., HANITSCH t.c.

Stylopyga maculifrons sp. n. New Guinea p. 399, HANITSCH t.c.

Symploce radificera Han. from *Neoblattella* p. 391; *falcifera* Han. from *Ischnoptera* p. 392, HANITSCH t.c.

Theganopteryx formosana further description p. 209, SHIRAKI Ins. mats. 5.

MANTIDAE.

Notes on the habits of Mantids, SCHOUTEDEN Rev. Zool. Bot. afr. 20 pp. (51)–(58), 3 figs.

Further notes on Indian Mantids, WERNER Proc. Zool. Soc. Lond. 1931 pp. 1329–1334, 1 pl.

Aetaella pluvisilvae sp. n. Ceylon p. 126 fig., HENRY Spolia zeylan. 16.

Ameles maroccana sp. n. Morocco p. 210 fig., UVAROV Bull. Soc. sci. nat. Maroc 10.

Amorphoscelis ugandensis sp. n. Uganda p. 359, BEIER Ann. Mag. N.H. (10) 7.

Cimantis testacea, *fuliginosa* spp. n. India p. 1330, WERNER Proc. Zool. Soc. Lond. 1931.

Coptopteryx gayi morphology, biology pp. 87–88 figs., ESTABLE An. Mus. nac. Montevideo (2) 3 1929.

Empusa spinosa S. Arabia p. 1, *simonyi* Sokotra I. p. 4, spp. n., KRAUSS Anz. Akad. Wiss. Wien 7 1902.

Eremiaphila braueri sp. n. S. Arabia p. 1, KRAUSS t.c.

Hierodula woodmasoni sp. n. Madras p. 1331; (*Rhombodera*) *extensicollis* Serv. (= *flava* de Haan); *major* Sauss.

(=*flava* G.-T.); *valida* Burm. (= *basalis* de Haan); *titania* Stål (= *dubia* Wern.) p. 1333, WERNER Proc. Zool. Soc. Lond. 1931.

Iris key to males p. 238, list of known spp. and subspp. p. 236, *radians* sp. n. Punjab p. 234; *oratoria* subspp. n. caeca Sudan p. 235; o. var. *polystictica* F.-W. (= *tiflisina* G.-T.) p. 236; *tricolor* Wern. status p. 237 figs., UVAROV Ann. Mag. N.H. (10) 8.

7 *Jalpa* see *Tosa*.

Mantis religiosa biology pp. 228-232, HOLTZ Ent. Z., Frankfurt a. M. 45.

Memantis minor p. 1330, *gardneri* p. 1331, spp. n. India, WERNER Proc. Zool. Soc. Lond. 1931.

Microthespis evansi sp. n. Baluchistan p. 418, UVAROV Ann. Mag. N.H. (10) 8.

Muscimantis gen. n. p. 123, *montanus* sp. n. Ceylon p. 124 fig., HENRY Spolia zeylan. 16.

Ozymantis gen. n., *punctillata* sp. n. Madras p. 1333, WERNER Proc. Zool. Soc. Lond. 1931.

Pararivettina gen. n., *fraseri* sp. n. India p. 361, BEIER Ann. Mag. N.H. (10) 7.

Pogonogaster gen. n. p. 326, *tristani* sp. n. Costa Rica p. 327 figs., REHN Trans. Amer. Ent. Soc. 44 1918.

Polyspilota montana sp. n. Abyssinia p. 360, BEIER Ann. Mag. N.H. (10) 7.

Rhombodera doriana sp. n. India p. 88 figs., LAIDLAW Ent. Mon. Mag. 67.

Sphodromantis bioculata regeneration of Johnston's organ after amputation p. 173, FRIZA & PRZIBRAM Anz. Akad. Wiss. Wien 67 1930.

Stagmomantis sp. habits p. 331, DAGUERRE Rev. Soc. ent. argent. 3.

7 *Tosa* n. n. for *Jalpa* Gig.-Tos nec Hhn. p. 42, NAVÁS Bol. Soc. ent. Esp. 14.

Yersinia solitaria, *sophronica* see *Yersiniops*.

Yersiniops gen. n. for *Yersinia solitaria* Scudd. (type) and *sophronica* Rehn & Heb. p. 114; *newboldi* sp. n. U.S.A. p. 115 fig., HEBARD Trans. Amer. Ent. Soc. 57.

PHASMIDAE.

Inheritance of abnormalities in Phasmids, CAPPE DE BAILLON Encyc. ent. A14 301 pp. 7 pls. 215 figs.

Systematic notes on and distribution of Phasmids in Oceania, GÜNTHER Mitt. zool. Mus. Berl. 17 pp. 753-835, 3 figs.

Acanthograeffea gen. n. for *denticulata* Redt. p. 760, *modesta* sp. n. Caroline I. p. 777 fig., GÜNTHER Mitt. zool. Mus. Berl. 17.

Carausius (*Dixippus*) *morosus* colour-changes p. 108, SCHMITT-AURACHER Zool. Anz. 53 1921; oviposition pp. 501-509 graphs, TOUMANOFF Bull. Soc. zool. Fr. 55; hatching of eggs pp. 510-516 fig., TOUMANOFF & ZERNOFF t.c.

Diapheromera veliei races pp. 65-67 fig., HEBARD Ent. News 42.

Echinothorax gen. n. for *Eurycantha gazellae* Br. W. p. 757, GÜNTHER Mitt. zool. Mus. Berl. 17.

Eurycantha gazellae see *Echinothorax*.

Hermarchus inermis speiseri Carl (= *warovi* Will.) p. 761, GÜNTHER t.c.

Menexenus scorpionides see *Woodlarkia*.

Ophicrania meridionalis sp. n. Solomon Is. p. 779 fig., GÜNTHER t.c.

Woodlarkia gen. n. for *Menexenus scorpionides* Montr. p. 754, GÜNTHER t.c.

GRYLLIDAE.

Achetidae and Gryllotalpidae of Celebes, CHOPARD Treubia 12 suppl. pp. 184-188.

Mogoplistinae of the U.S.A., HEBARD Trans. Amer. Ent. Soc. 57 pp. 135-160, 2 pls.

Revised list of known Gryllids from the China coast, Hsü Peking N.H. Bull. 5 pt. 4 pp. 17-25.

Acheta brasiliensis see *Gryllus*.

Chremon repentinus description p. 13, life-history pp. 1-16 figs., ARNDT & DOZIER Bull. Serv. tech. Dept. Agric. Haiti 26; early stages, life-history pp. 325-335 figs., ARNDT & DOZIER J. Dept. Agric. Puerto Rico 15.

Cranistus bolivianus sp. n. Bolivia p. 283 fig., HEBARD Konowia 10.

Cycloptilum bidens p. 147, *distinctum* p. 150 spp. n.; *comprehendens* subspp. n. interior p. 151, fortior p. 153 U.S.A. figs., HEBARD Trans. Amer. Ent. Soc. 57.

Endecous lizeri sp. n. Argentina p. 365 figs., REHN Trans. Amer. Ent. Soc. 44 1918.

Eneoptera guyanensis sp. n. Fr. Guiana p. 14; *surinamensis* DeG. (= *Platydictylus subnotatus* Kby.), *P. caliginosus* Kby. distinct from p. 16, CHOPARD Bull. Soc. ent. Fr. 1931.

Euaphonus atrifrons sp. n. Celebes p. 188, CHOPARD Treubia 12 suppl.

Gryllus brasiliensis F. from Acheta p. 16, CHOPARD Bull. Soc. ent. Fr. 1931. — *G. mitratus* morphology pp. 187–207, ethology pp. 207–211 figs., HSÜ Lingnan Sci. J. 10. — *G. domesticus* swarming in Switzerland p. 309 figs., FAES Rev. suisse Zool. 38.

Nemobius morphology, biology, song habits pp. 205–237, *mormonius* Seudd. distinct sp. p. 209; *fasciatus* subsp. n. *tinnulus* U.S.A. p. 210 figs., FULTON Ann. Ent. Soc. Amer. 24.

Platydictylus subnotatus see *Eneoptera surinamensis*.

Tridactylus japonicus in Transcaucasia p. 222, BEI-BIENKO Bol. Soc. esp. Hist. nat. 31.

GRYLLOBLATTIDAE.

Grylloblatta campodeiformis anatomy of head pp. 519–536 figs., WALKER Ann. Ent. Soc. Amer. 24; biology pp. 291, var. n. *occidentalis* Washington p. 293 figs., SILVESTRI Trans. Amer. Ent. Soc. 57.

TETTIGONIIDAE (GRYLLACRIDAE).

Gryllacridae of Celebes, KARNY Treubia 12 suppl. pp. 141–184, 18 figs.

Gryllacrids of the Senckenberg Museum, KARNY Abh. senckenb. naturf. Ges. 42 pp. 383–434, 2 pls. 17 figs.

Gryllacrids of China, KARNY Lingnan Sci. J. 7 pp. 721–754, 1 pl. 19 figs.; 10 pp. 461–466.

Revision of Gryllacrids in Netherlands Museums, KARNY Tijdschr. Ent. 74 pp. 1–156, 1 pl. 50 figs.

Tettigoniidae of Celebes, KARNY Treubia 12 suppl. pp. 4–140, 70 figs.

On the geographical distribution of the Indo-African and Mediterranean Gryllacrids, KARNY Trans. Roy. Soc. S. Afr. 19 pp. 99–105, 4 maps.

Distribution and morphology of Schizodactylinae, RAMME Z. Morph. Oekol. Tiere 22 pp. 163–172, 11 figs.

Revision of the leaf-like Tettigoniidae of tropical America, VIGNON Arch. Mus. Paris (6) 5 1930 pp. 57–214, 25 pls. 95 figs.

Acauloplacella gen. n. for *Acauloplax asiatica* Brun. p. 62 figs., KARNY Treubia 12 suppl.

Acauloplax asiatica see *Acauloplacella*.

Anaulacomera alfaroi sp. n. Costa Rica p. 351 figs., REHN Trans. Amer. Ent. Soc. 44 1918.

Ancistrura nigrovittata Br. (= *truncata* Uv.) p. 172, RAMME Mitt. zool. Mus. Berl. 17.

Anoplophilus gen. n. p. 462, *acuticercus* (type) p. 463, *longicercus* p. 465, spp. n. Japan, KARNY Lingnan Sci. J. 10.

Anthracites key to Celebes spp. p. 123, *discolateralis* p. 124, *tibialis* p. 126, *humeralis* p. 127, spp. n. Celebes figs., KARNY Treubia 12 suppl.

Barbitistes oertzeni, *pulchripennis* see *Metaplasia*.

Caedicia simplex biology pp. 296–303 figs., LYSAGHT N.Z. J. Sci. Technol. 12.

Chlorophylla inca sp. n. Peru p. 360 figs., REHN Trans. Amer. Ent. Soc. 44 1918.

Chloroscirtus discocercus sp. n. Costa Rica p. 348 figs., REHN t.c.

Comicus capensis ♀ p. 165; *arenarius* sp. n. S.W. Africa p. 166 figs., RAMME Z. Morph. Oekol. Tiere 22.

Diaphlebopsis gen. n. p. 67, *fissiceps* sp. n. Celebes p. 70 figs., KARNY Treubia 12 suppl.

Diestrammena japonica chromosomes pp. 635–646 figs., MAKINO Dobuts. Z. 43.

Diplodontopus gen. n. p. 57, *insolitus* sp. n. Celebes p. 59 figs., KARNY Treubia 12 suppl.

Drymadusa ornatipennis Ramme from *Paradrymadusa* p. 176, RAMME Mitt. zool. Mus. Berl. 17.

Eremus pileatus sp. n. Sokotra I. p. 5, KRAUSS Anz. Akad. Wiss. Wien 7 1902.

Eucarulopsis gen. n. p. 280, *truncata* sp. n. Argentina p. 281 figs., HEBARD Konowia 10.

Furnia insularis ♂ p. 12 fig., CAU-DELL Univ. Iowa Studies 12 no. 3 1927.

Gryllacris key to Celebes spp. p. 142, *maculiventris* p. 144, *celebica* p. 149, *sarasini* p. 154, *brevistyla* p. 162, *nodistyla* p. 164, *libidinosa* p. 171 spp. n.; *sexpunctata* subsp. n. *obscuriceps* p. 159 Celebes; *helleri* ♀ p. 153 figs., KARNY Treubia 12 suppl.—*G. rugifrons* p. 3, *timoriensis* p. 125 Timor, *simalurensis* (with subsp. n. *xiphidiopsis* p. 16) p. 15, *unicolor* p. 132 Simalur, *büttikoferi* p. 37, *barabensis* p. 88, *nieuwenhuisi* p. 137, *variegata* p. 143 Borneo, *diraphidura* no locality p. 47, *wetterana* Wetter I. p. 51, *barussa* Palembang p. 75, *fasciipennis* Sumatra p. 92, *macrura* Riouw I. p. 97 spp. n.; *fumigata* subsp. n. *miniata* Java p. 351; *servillei* subsp. n. *matura* Sumatra p. 85 figs., KARNY Tijdschr. Ent. 74.—*G. madagassa* Madagascar p. 387, *aruana* Aru I. p. 394, *planiloba* p. 404, *pelvicula* p. 410, *acuminata* p. 415, *spinus* p. 418 Central Australia, spp. n. figs., KARNY Abh. senckenb. naturf. Ges. 42.

Gymnocera argentina sp. n. Argentina p. 276 fig., HEBARD Konowia 10.

Holochlora key to Celebes spp., *metazonalis* p. 35, *sarasini* p. 36, *mapanensis* p. 38, spp. n. Celebes figs., KARNY Treubia 12 suppl.

Isophya brevicauda sp. n. Zagreb p. 168; *bivittata* Uv. (= *transcaucasica* Ramme) *modestior* Br. (= *fusconotata* Br.) p. 170 figs., RAMME Mitt. zool. Mus. Berl. 17.—*I. poltoratskyi* see *Poecilimon*.

Isopsera fissa sp. n. Buru p. 19; *vaga* ♂ p. 20 figs., KARNY Treubia 12 suppl.

Liotrachela taeniistyla sp. n. Celebes p. 32 fig., KARNY t.c.

Metaplasia gen. n. for *Barbitistes oertzeni* Br. (type), *B. pulchripennis* Costa p. 172; *ornata* sp. n. Greece p. 174 fig., RAMME Mitt. zool. Mus. Berl. 17.

Metrioptera kuntzeni sp. n. Istria; *dofeini* Ram. (= *ebneri* Ram.) p. 181; *oblongicollis* Br. (= *Pholidoptera albanica* Csiki) p. 183 figs., RAMME t.c.

Microcentrum philammon sp. n. Costa Rica p. 357 figs., REHN Trans. Amer. Ent. Soc. 44 1918.

Mortoniellus digitatus p. 100, *hamatus* p. 101, spp. n. Celebes figs., KARNY Treubia 12 suppl.

Neanias celebensis sp. n. Celebes p. 174 fig., KARNY t.c.

Nicsara key to Celebes spp. p. 115, *aethiops* p. 116, *sarasini* p. 119, spp. n. Celebes figs., KARNY t.c.

Paradrymadusa ornatipennis see *Drymadusa*.

Paralobaspis gorgon sp. n. Br. Guiana p. 362 figs., REHN Trans. Amer. Ent. Soc. 44 1918.

Paraphidnia lankesteri sp. n. Costa Rica p. 344 figs., REHN t.c.

Phaula neglecta sp. n. Celebes p. 22 fig., KARNY Treubia 12 suppl.

Phisis buruana sp. n. Buru p. 91; *leontopolites* n. n. for *acutipennis* Heb. nec Carl; *sarasini* sp. n. Celebes p. 92 figs., KARNY t.c.

Pholidoptera dalmatica geographical rr. pp. 430-434, subsp. n. *maritima* Dalmatia p. 430, ZEUNER Mitt. zool. Mus. Berl. 17.—*P. ebneri* sp. n. Albania p. 177 figs., RAMME Mitt. zool. Mus. Berl. 17.—*P. albanica* see *Metrioptera oblongicollis*.

Phygela latipennis sp. n. Celebes p. 45 fig., KARNY Treubia 12 suppl.

Platycaedicia dicranocerca subsp. *celebensis* further description p. 21, KARNY t.c.

Platycleis grisea notes on rr. pp. 424, 431, subsp. n. *occidentalis* W. and Central Europe p. 426 fig., ZEUNER Mitt. zool. Mus. Berl. 17.—*P. eversmanni* Kitt. (= *falszeini* Ramme) p. 180; *romana* ♂ p. 178, RAMME Mitt. zool. Mus. Berl. 17.

Poecilimon brunneri Friv. (= *berlandi* Uv.); *poltoratskyi* Uv. from *Isophya* p. 166; *neglectus* sp. n. Asia Minor p. 168 fig., RAMME t.c.

Psorodonotus fieberi subsp. n. *macedonicus* Macedonia p. 184; *uvarovi* ♂ p. 186; *illyricus* Eb. a sp. not var. of *fieberi* p. 187 figs., RAMME t.c.

Psyra celebica sp. n. Celebes p. 43, KARNY Treubia 12 suppl.

Pycnopalpa aurigera sp. n. Peru p. 353 figs., REHN Trans. Amer. Ent. Soc. 44 1918.

Rhaphidophora sarasini sp. n. Celebes p. 179 figs., KARNY Treubia 12 suppl.

Sasimella sarasinifolia sp. n. Celebes p. 49 fig., KARNY t.c.

Sathrophyllia arabica sp. n. S. Arabia p. 3, KRAUSS Anz. Akad. Wiss. Wien 7 1902.

Segestes celebensis sp. n. Celebes p. 72 fig., KARNY Treubia 12 suppl.

Steropleurus cockerelli sp. n. Morocco p. 211 fig., UVAROV Bull. Soc. Sci. nat. Maroc 10.

Tapiena chelicerca sp. n. Celebes p. 29 fig., KARNY Treubia 12 suppl.

ACRIDIDAE.

Zonal and ecological distribution of Acrididae in W. Siberia, BEI-BIENKO Bull. Plant Prot., Ent. 1 1930 pp. 51-90.

Monograph of Eumastacidae, BOLLVAR Y PIELTAIN Trab. Mus. nac. Madrid Ser. Zool. 46 1930 xxxii + 380 pp. 186 figs.

Key to S. American Melanopli referred to *Paradichroplus* and their allies, HEBARD Konowia 10 p. 274.

Notes on parasites and hyperparasites of egg-pods of injurious locusts in Turkestan, JAZYKOV Bull. Ent. Res. 22 pp. 385-391.

Supplement to Acrididae of Lower Volga Region, PREDTECHENSKIĖ Comment. Inst. Astrachanensis def. Plant 2 fasc. 3 1929 7 pp.

Additions to the author's work on African Acrididae, RAMME Mitt. zool. Mus. Berl. 16 pp. 918-945, 1 pl. 17 figs.

Studies in African Acrydiinae, sections Cladonotae, Scelimenae, Metrodora, REHN Proc. Acad. Nat. Sci. Philadelphia 82 pp. 91-127, 4 pls.

A study of N. American Eumastacinae, REHN & HEBARD Trans. Amer. Ent. Soc. 44 1918 pp. 223-250, 6 pls.

Acrididae in Canberra Museum, Australia, SJÖSTEDT Ark. Zool. 22A no. 7 11 pp. 4 figs.

Acridiodes of the Congo and other parts of Africa, SJÖSTEDT Ark. Zool. 22A no. 15 64 pp. 6 pls. 40 figs.

Survey of the Acridiodes of the Alai Valley, Kirghisia (Central Asia), UMOV Ent. NachrBl. 5 pp. 12-17.

Acrididae of Celebes, WILLEMSE Treubia 12 suppl. pp. 189-270, 24 figs.

List of Tetriginæ of the Sunda Is., WILLEMSE Arch. Hydrobiol. Suppl. 9 pp. 43-46.

Acanthalobus see *Criotettix*.

Acorypha gilli Uv. (= *Caloptenopsis violaceipennis* Ramme) p. 944, RAMME Mitt. zool. Mus. Berl. 16.

Acrida acuminata var. n. *histrionica* Congo p. 2, SJÖSTEDT Ark. Zool. 22A no. 15.—*A. longicornis* S. Arabia p. 2, *viridifasciata* Sokotra I. p. 4, spp. n., KRAUSS Anz. Akad. Wiss. Wien 7 1902.

Aeropus preliminary revision pp. 85-94, key p. 86, *kudia* Caud. a good sp. p. 87; *sibiricus* subsp. n. *græcus* Greece, *hispanicus*, *pyrenaicus* Spain p. 90, *helveticus* Switzerland p. 91; *armeniacus* sp. n. Russian Armenia p. 93 figs., UVAROV Eos 7.

Amblyphymus hamatus sp. n. Belgian Congo p. 941 fig., RAMME Mitt. zool. Mus. Berl. 16.

Amphicremna scalata ♀♂ p. 5; SJÖSTEDT Ark. Zool. 22A no. 15.

Amycus formosanus sp. n. Formosa p. 9, SHIRAKI Acrid. Japans, Tokyo 1910.

Angaracris gen. n. for *Bryodema barabense* Pall. (type), *rhodopa* F.W. p. 118, key p. 119 figs., BEI-BIENKO Annu. Mus. zool. Acad. Leningrad 31 1930.

Apacris gen. n. for *Pedies aberrans* G.T. (= *subaquaticus* Brun., *steinbachi* Brun.) p. 275, HEBARD Konowia 10.

Aucacris hebardii sp. n. Chile p. 22 figs., WILLEMSE Mitt. deuts. ent. Ges. 2.

Aulacobothrus brazzavillei sp. n. Fr. Congo p. 15 figs., SJÖSTEDT Ark. Zool. 22A no. 15.

Aularches miliaris biology p. 229, McCANN J. Bombay N.H. Soc. 35.

Austenia see *Austeniella*.

Austeniella n. n. for *Austenia* Ramme nec Nevill (Gasteropoda) p. 934, RAMME Mitt. zool. Mus. Berl. 16.

Austracris guttulosa subsp. n. *talawensis* Palawan p. 25, SJÖSTEDT Ark. Zool. 23A no. 4.

Batrachotettix tectinota p. 586, *turneri* p. 587, *nana* p. 589, *braini* p. 590, *hemiptera* p. 591, spp. n. Cape Province figs., UVAROV Ann. Mag. N.H. (10) 8.

Bennia Burr (= *Ebneridia* Bol.) p. 556, *bonzo* Burr (= *luteofasciata* Bol.) p. 556; *birmanica* sp. n. Burma p. 557 figs., BOLIVAR Y PIELTAIN Bol. Soc. esp. Hist. nat. 31.—*B. burri* see *Burrinia*.

Bibracte key p. 294, *marginata* sp. n. Malacca p. 293 figs., WILLEMSE Ent. Anz. 11.—*B. malagassa* see *Serpusilla*.

Biroella key p. 315, *aruensis* sp. n. Aru I. p. 334; *bolivari* subsp. n. *schultzei* New Guinea p. 342 figs., BOLIVAR Y PIELTAIN Trab. Mus. nac. Madrid Ser. Zool. 46 1930.

Biroellinae subfam. n. p. 309, BOLIVAR Y PIELTAIN Trab. Mus. nac. Madrid Ser. Zool. 46 1930.

Bocagella curvula sp. n. Fr. Congo p. 26 fig., SJÖSTEDT Ark. Zool. 22A no. 15.

Bryodem monograph pp. 71–127, restriction p. 72, key to allied genn. p. 73, systematic position, distribution p. 74, key to spp. and subspp. p. 80, *holdereri* subsp. n. *occidentale* Minussinsk p. 87; *diamesum* E. Tibet p. 94, *zaisanicum* Zaisan p. 95, *fallax* p. 97, *kozlovi* p. 101 Mongolia, *heptapotamicum* Heptapotamia p. 103, *uvarovi* N.W. China p. 112 spp. n.; *semenovi* subsp. n. *orientale* p. 101; *miramae* subsp. n. *elegantulum* p. 111 Mongolia; *indum* Sauss. a subsp. not synonym of *luctuosum* Stoll p. 115 figs., BEI-BIENKO Annu. Mus. zool. Acad. Leningrad 31 1930.—*B. barabense*, *rhodopa* see *Anfgaracris*.

Bumacris gen. n. p. 348, *flavomaculata* sp. n. Solomon Is. p. 350, fig., WILLEMSE Int. ent. Z. 25.

Burrinia gen. n. for *Bennia burri* Bol. p. 146 (type) and *Erianthus humbertianus* Sauss. p. 150 figs., BOLIVAR Y PIELTAIN Trab. Mus. nac. Madrid Ser. Zool. 46 1930.

Butania lugubris var. n. *major* Sikkim p. 143, BOLIVAR Y PIELTAIN t.c.

Calamacris mexicana Brun. (= *oculata* Brun.) p. 123, HEBARD Trans. Amer. Ent. Soc. 57.

Calephorus compressicornis var. n. *camerunensis* Kamerun p. 9, SJÖSTEDT Ark. Zool. 22A no. 15.

Callichloracris n. n. for *Chloracris* Karsch nec Pict. (Tettigoniid) p. 934, RAMME Mitt. zool. Mus. Berl. 16.

Calliptamus bimaculatus p. 4, *pachypus* p. 5, spp. n. Sokotra I., KRAUSS Anz. Akad. Wiss. Wien 7 1902.

Caloptenopsis congoensis p. 54, *corallipes*, *brazzavillei* p. 57 spp. n. Fr. Congo; *angusticosta* Karsch, *speciosa* Sjöst. distinct spp. p. 56, SJÖSTEDT Ark. Zool. 22A no. 15.—*C. violaceipennis* see *Acorypha gilli*.

Caloptenus italicus morphology, biology pp. 1–8, 18–20 figs., DINGLER Anz. Schädling. Berlin 7.

Cannula tessellata f. n. *reducta* Fr. Congo; *linearis* f. n. *macroptera* Meru p. 4, SJÖSTEDT Ark. Zool. 22A no. 15.

Cardenius magnificus ♂ p. 939, RAMME Mitt. zool. Mus. Berl. 16.

Catantops notatus Karsch (= *minimus* Karsch) p. 30; *interveniens* p. 31, *zigzag* p. 47, *coeruleascens* p. 49 Fr. Congo, *pulcher* p. 39, *dubiosus* p. 47 Tanganyika, *somalicus* p. 40, *allessandricus* p. 51 Somaliland, *loveni* p. 48, *kilimensis* p. 49 E. Africa, *momboensis* Usambara p. 50 spp. n.; *madimbanus* p. 42; (*Vitticatantops* subgen. n. p. 43) figs., SJÖSTEDT Ark. Zool. 22A no. 15.—*C. versicolor* sp. n. Sokotra I. p. 4, KRAUSS Anz. Akad. Wiss. Wien 7 1902.—*C. vittatus* see *Pnorisa squalus*; *sulcifer* see *Eupropacris*; *graueri* see *Parapropacris*; *viridulus* see *P. vana*.

Celebomastax gen. n. p. 203, *curiosa* sp. n. Celebes p. 204 fig., WILLEMSE Treubia 12 suppl.; See *Eupatrides*.

Cephalocoema magna G. T. (= *gigantea* G. T.) p. 268, HEBARD Konowia 10.

Ceracris hoffmanni sp. n. S. China p. 217, UVAROV Lingnan Sci. J. 10.

Chescirtypus subgen. n. see *Orchetypus*.

Chloracris see *Callichloracris*.

Chorotypus key p. 28, *saussurei* Perak p. 32, *servillei* p. 35, *ameliae* p. 41 Borneo, spp. n. figs., BOLIVAR Y PIELTAIN Trab. Mus. nac. Madrid Ser. Zool. 46 1930.

Chorthippus spp. postembryonic development of specific differences pp. 241–272 figs., SPETT Arch. EntwMech. Org. 124.—*C. nudus* p. 89, *plotnikovii* p. 91, *ferghanensis* p. 93, *antennalis* p. 95 Uzbekistan, *monilicornis* p. 98, *pascuus* p. 99 Kirghistan, spp. n., UMN OV Ent. NachrBl. 5.—*C. geophilus* sp. n. p. 196 (with subsp. n. *divergens*

p. 198); *kozhevnikovi* subsp. n. *arenosus* p. 199 Siberia figs., BEI-BIENKO Izv. W. Siberian Sect. Russ. Geogr. Soc. 7 1930.

Christia compta var. n. *auripennis* Congo p. 14, SJÖSTEDT Ark. Zool. 22A no. 15.

Chrysochraon genicularibus sp. n. Japan p. 17, SHIRAKI Acrid. Japans, Tokyo 1910.

Conophyma kusnezovi sp. n. Alai p. 15, UMN OV Ent. NachrBl. 5.—*C. fedtschenkoi* subsp. n. *ornatum* S. Turkestan p. 198 figs., RAMME Mitt. zool. Mus. Berl. 17.—*C. kittaryi* sp. n. Central Asia p. 459 figs., TARBINSKY Ent. Anz., Vienna 11.

Cophotylus gen. n., *steindachneri* sp. n. S. Arabia p. 3, KRAUSS Anz. Akad. Wiss. Wien 7 1902.

Coryacris diversipes Rehn good sp. p. 272, HEBARD Konowia 10.

Coscineuta matensis sp. n. Venezuela p. 331 figs., REHN Trans. Amer. Ent. Soc. 44 1918.

Criotettix Bol. (= *Acanthalobus* Hanc.) p. 111 (note), REHN Proc. Acad. Nat. Sci. Philad. 82.

Curieus subgen. n. see *Erucius*.

Cymochtha deserticola sp. n. S. Arabia p. 2, KRAUSS Anz. Akad. Wiss. Wien 7 1902.—*C. congoensis* sp. n. Fr. Congo p. 12, SJÖSTEDT Ark. Zool. 22A no. 15.

Dasyhippus revision of Palaearctic spp. pp. 139–152, figs., TARBINSKY Bull. Inst. Contr. Pests Dis. 1.—*D. pygmaeus* sp. n. Ordubad p. 223 fig., BEI-BIENKO Bol. Soc. esp. Hist. nat. 31.

Desmoptera insularis sp. n. Queensland p. 3 fig., SJÖSTEDT Ark. Zool. 22A no. 7.

Diablepia stenströmi sp. n. Fr. Congo p. 10 fig., SJÖSTEDT op. cit. no. 15.

Dibastica modesta ♂ p. 22, SJÖSTEDT t.c.

Dichroplus forcipatus sp. n. Argentina p. 337 fig., REHN Trans. Amer. Ent. Soc. 44 1918.

Diedronotus centralis sp. n. Costa Rica p. 329 fig., REHN t.c.

Diexis chivensis Khiva p. 193, *ferghanensis* Ferghana p. 198 spp. n., key p. 203, UMN OV Wien. ent. Ztg. 47.

Dinotettix africanus Bol. from Mazarredia p. 127 figs., REHN Proc. Acad. Nat. Sci. Philad. 82.

Dracotettix newboldi sp. n. U.S.A. p. 125 figs., HEBARD Trans. Amer. Ent. Soc. 57.

Duroniella brachyptera sp. n. Tadshikistan p. 132, UMN OV Wien. ent. Ztg. 48.

Ebneridia gen. n. p. 94, *luteofasciata* sp. n. Tenasserim p. 96 figs., BOLIVAR Y PIETAIN Trab. Mus. nac. Madrid Ser. Zool. 46 1930; see *Bennia*.

Epallia exigua sp. n. Queensland p. 8, SJÖSTEDT Ark. Zool. 22A no. 7.

Erianthus formosanus sp. n. Formosa p. 83, SHIRAKI Acrid. Japans, Tokyo 1910.—*E. key* p. 101, *bakeri* sp. n. Luzon p. 109; *versicolor* var. n. *fruhstorferi* Siam p. 128 figs., BOLIVAR Y PIETAIN Trab. Mus. nac. Madrid Ser. Zool. 46 1930.—*E. humbertianus* see *Burrinia*.

Erucius key p. 218, *Curieus* subgen. n. type *tenuis* Brun. p. 214; *fruhstorferi* Java p. 220, *staudingeri* p. 230, *labuanensis* p. 234, *stali* p. 239, *willemsei* p. 251 (with var. n. *chaperi* p. 254) Borneo, *moultoni* p. 237, *dusmeti* p. 255 Sarawak spp. n.; *dimidiatipes* varr. n. *luteipes* Penang p. 261, *zonatus* Sumatra p. 262 figs., BOLIVAR Y PIETAIN Trab. Mus. nac. Madrid Ser. Zool. 46 1930.

Eubocoana gen. n., *tristis* sp. n. Fr. Congo p. 21 figs., SJÖSTEDT Ark. Zool. 22A no. 15.

Eucerohippus cunctator subsp. n. *flabellatus* E. Africa p. 944; *phyllocerus* Ramme from *Lindia* p. 945 fig., RAMME Mitt. zool. Mus. Berl. 16.

Euchorthippus angustulus sp. n. Balearic Is. p. 191 fig., RAMME op. cit. 17.

Eucoptacra parvula sp. n. E. Africa p. 934 fig., RAMME op. cit. 16.

Eumastax boliviana sp. n. Bolivia p. 264 fig., HEBARD Konowia 10.

Euphistes variegatus ♀ p. 4, SJÖSTEDT Ark. Zool. 22A no. 7.

Eupatrides Brun. (= *Celebomastax* Will.), key p. 484, *lobatus* sp. n. Johore p. 485 fig., BOLIVAR Y PIETAIN Bol. Soc. esp. Hist. nat. 31.

Euprepocnemis hokutensis sp. n. Formosa p. 81, SHIRAKI Acrid. Japans, Tokyo 1910.

Eupropacris sulcifer Karny from *Catantops* p. 42, SJÖSTEDT Ark. Zool. 22A no. 15.

Eurotettix schrottkyi sp. n. Paraguay p. 341 figs., REHN Trans. Amer. Ent. Soc. 44 1918.

Eurynotacris gen. n. p. 935, *somalica* sp. n. Somaliland p. 937 fig., RAMME Mitt. zool. Mus. Berl. 16.

Filchnerella beicki sp. n. Kansu p. 446 figs., RAMME op. cit. 17.

Gelastorhinus rotundatus sp. n. Formosa p. 62, SHIRAKI Acrid. Japans, Tokyo 1910.

Genurelliagen. n. p. 4, *cylindrica* sp. n. New South Wales p. 6 fig., SJÖSTEDT Ark. Zool. 22A no. 7.

Gomphocerus revision of Palaearctic spp. pp. 129-139 figs., TARBINSKY Bull. Inst. Contr. Pests Dis. 1.

Gomphomastax key p. 291, *clavata* subsp. n. *plotnikovii* Turkestan p. 298; *disparilis* sp. n. Kashmir p. 300 figs., BOLIVAR Y PIETAIN Trab. Mus. nac. Madrid Ser. Zool. 46 1930.—*G. constrictus*, *avinovi* see *Paedomastax*.

Heliastus parviceps Wlk. (= *Thrinx aridus* Brun.) p. 120, HEBARD Trans. Amer. Ent. Soc. 57.

Hemiacris azurea sp. n. Fr. Congo p. 20 fig., SJÖSTEDT Ark. Zool. 22A no. 15.

Heteropternis kilimandjarica ♀ var. n. *flavida* Congo p. 17 figs., SJÖSTEDT t.c.

Horesidotes cinereus subsp. n. *saltator* U.S.A. p. 116 fig., HEBARD Trans. Amer. Ent. Soc. 57.

Hulstaertia gen. n., *cinnabarina* sp. n. Congo p. 933 fig., RAMME Mitt. zool. Mus. Berl. 16.

Ibeotettix gen. n. p. 129, *batesi* sp. n. Kamerun p. 130 figs., REHN Proc. Acad. Nat. Sci. Philad. 82.

Ischnacrida vittata F. (= *convergens* Wlk.) distinguished from *taeniata* Stål p. 219, UVAROV Lingnan Sci. J. 10.

Kabulia key p. 224, *balucha* p. 226, *evansi* p. 228, spp. n. Baluchistan figs., UVAROV Eos 7.

Karnydia gen. n. p. 160, *celebesica* sp. n. Celebes p. 162 figs., BOLIVAR Y PIETAIN Trab. Mus. nac. Madrid Ser. Zool. 46 1930.

Kinkalidia gen. n. p. 25, *robusta* sp. n. Fr. Congo p. 26, fig., SJÖSTEDT Ark. Zool. 22A no. 15.

Lagoonia gen. n. p. 8, *scabronotum* sp. n. N. Australia p. 10 fig., SJÖSTEDT op. cit. no. 7.

Lamelletettix mampua sp. n. Sierra Leone p. 123 figs., REHN Proc. Acad. Nat. Sci. Philad. 82.

Leiotettix mendosensis sp. n. Argentina p. 335 figs., REHN Trans. Amer. Ent. Soc. 44 1918.

Lindia phyllocera see *Eucerohippus*.

Litoscirtus insularis ♂ p. 124, HEBARD Trans. Amer. Ent. Soc. 57.

Locusta migratoria periodicity Russia pp. 91-147, OLSUF'EV Bull. Plant Prot., Ent. 1 1930; ecology of breeding-grounds Ryazan-Tambov, biology pp. 3-49, periodicity Russia pp. 149-159, PREDTECHENSKIĖ Bull. Plant Prot., Ent. 1 1930; parasites of larval and adult instars pp. 191-261 figs., RUKAVISHNIKOV Bull. Plant Prot., Ent. 1 1930; autumn generation, Daghestan 1927 pp. 179-189, FRANTZI & DYUKOV Bull. Plant Prot., Ent. 1 1930; biometrical characters of rr. pp. 263-274, MAKALOVSKAYA Bull. Plant Prot., Ent. 1 1930; swarming in Valais pp. 57-77, FARQUET Bull. Murith. Sion 48; *migratorioides* occurrence in Sudan and its associated phases pp. 399-416, JOHNSTON & DARLING Bull. Ent. Res. 22; recent swarming, Tropical Africa pp. 365-378, effect of climate on migrations, breeding Nigeria pp. 551-569 figs., LEAN Bull. Ent. Res. 22; distribution p. 294, VAYSSIÈRE C.R. Acad. Sci. Fr. 193.

Loxilobus bantu sp. n. Sierra Leone p. 113 figs., REHN Proc. Acad. Nat. Sci. Philad. 82.

Machaeridia congonica p. 6, *fragilis* p. 7, spp. n. Congo, SJÖSTEDT Ark. Zool. 22A no. 15.

Mastacides key p. 267, *ramachendrai* p. 271, *gracilipes* p. 274, *stuartensis* p. 276, *fletcheri* p. 281, *crassipes* p. 285, spp. n. India figs., BOLIVAR Y PIETAIN Trab. Mus. nac. Madrid Ser. Zool. 46 1930.

Mazarredia africana see *Dinotettix*.

Medinophyllum xerophylloide Bol. (= *conradii* Bol., *Trypophyllum crano-notum* Rehn) p. 93, REHN Proc. Acad. Nat. Sci. Philad. 82.

Melanoplus borealis in N. Labrador p. 33, REHN Ent. News 42.—*M. differentialis* growth and nutrition p. 34, HODGE Anat. Rec. 51 suppl.; development, sex differentiation pp. 467–526 figs., NELSEN J. Morph. 51; development of ovary p. 76, NELSEN Anat. Rec. 51 suppl.

Micronotus infuscatus Brun., minor Brun. reinstated in *Sclerotettix* p. 264, HEBARD Konowia 10.

Mizonocara kusnetzovae sp. n. Uzbekistan p. 134, UMNOW Wien. ent. Ztg. 48.

Mnesicles key p. 171, *moluccensis* Moluccas p. 177, *amboinensis* Amboina p. 180, *mazarredoi* Philippines p. 191, spp. n. figs., BOLIVAR Y PIETAIN Trab. Mus. nac. Madrid Ser. Zool. 46 1930.—*M.* key p. 289, *horni* Luzon p. 293, *stylatus* New Guinea p. 295, *palawanensis* Palawan p. 297, *poultoni* Borneo p. 299, spp. n. figs., BOLIVAR Y PIETAIN Bol. Soc. esp. Hist. nat. 31.—*M. saussurei* n. n. for *crassipes* Sauss. nec Karsch p. 206, WILLEMSE Treubia 12 suppl.—*M. strigata* see *Uvarovia*.

Modernacris gen. n. p. 333, *controversa* sp. n. Solomon Is. p. 334 fig., WILLEMSE Int. ent. Z. 25.

Morphopoides gen. n. p. 120, *coriaceum* sp. n. Sierra Leone p. 121 figs., REHN Proc. Acad. Nat. Sci. Philad. 82.

Morphopus burri sp. n. Angola p. 117 figs., REHN t.c.

Morsea N. American spp. pp. 226–241, *californica* subsp. n. *dumicola* U.S.A. p. 235 figs., REHN & HEBARD Trans. Amer. Ent. Soc. 44 1918.

Neopedies gen. n. for *Pedies brunneri* G. T. p. 275, HEBARD Konowia 10.

Nomadacris septemfasciata biology pp. 571–572, LEAN Bull. Ent. Res. 22.

Oedaleus australis var. n. *plana* Australia p. 2, SJÖSTEDT Ark. Zool. 22A no. 7.

Oedipoda akitana p. 40, *japonica* p. 39, *rufipes* p. 37, spp. n. Formosa, SHIRAKI Acrid. Japans, Tokyo 1910.—*O. fuscocincta* subsp. n. *portugalis* Portugal p. 193, RAMME Mitt. zool. Mus. Berl. 17.

Ogmothela good genus, scope p. 923, key, *fallax* Karny p. 928, *brevipennis* Mill. from *Zacompsa*; *gracilis* sp. n. Tanganyika p. 929; *meruensis* Sjöst. from *Pseudochirista*; *rimulata* Karsch

from *Zacompsa* p. 930 fig., RAMME op. cit. 16.—*O. rammei* sp. n. Meru p. 61, key p. 62, SJÖSTEDT Ark. Zool. 22A no. 15.

Ommexecha macroptera Blanch. (= *giglio-tosi* Bol.) p. 271, HEBARD Konowia 10.

Orchetypus (*Chescirtypus* subgen. n.) *martinezi* Kamerun p. 67, *parki* Nigeria p. 68, *assiniensis* Ivory Coast p. 70, spp. n. figs., BOLIVAR Y PIETAIN Trab. Mus. nac. Madrid Ser. Zool. 46 1930.

Oxya Chinese spp. p. 436, *agavisa* p. 437 (with f. n. *robusta*), *rammei* p. 439, spp. n. China figs., TSAI Mitt. zool. Mus. Berl. 17.—*O. annulicornis* p. 57, *yezoensis* p. 56, spp. n. Formosa, SHIRAKI Acrid. Japans, Tokyo 1910.

Oxyrrhepes celebesia sp. n. Celebes p. 234 fig., WILLEMSE Treubia 12 suppl.

Paedomastax gen. n. for *Gomphomastax constrictus* Brun. and *G. avinovi* Uv. p. 303 figs., BOLIVAR Y PIETAIN Trab. Mus. nac. Madrid Ser. Zool. 46 1930.

Pamphagulus uvarovi p. 193, *vicinus* p. 195, spp. n. Mauretania figs., RAMME Mitt. zool. Mus. Berl. 17.

Paracranaë gen. n. p. 234, *celebesia* sp. n. Celebes p. 235 figs., WILLEMSE Treubia 12 suppl.

Paralobopoma Rehn (= *Sagonacris* Ramme) p. 918, *sjöstedti* sp. n. Tanganyika p. 920 fig., RAMME Mitt. zool. Mus. Berl. 16.

Parapleurus koshunensis sp. n. Formosa p. 14, SHIRAKI Acrid. Japans, Tokyo 1910.

Parapropacris vana Karsch (= *Catanotops viridulus* Karny); *graueri* Sjöst. from *Catanotops* p. 939, RAMME Mitt. zool. Mus. Berl. 16.

Paratettix caucasicus sp. n. Ordubad p. 226 fig., BEI-BIENKO Bol. Soc. esp. Hist. nat. 31.

Parga xanthoptera ff. n. *musanae* p. 4, *brazzavillei* p. 5 Fr. Congo fig., SJÖSTEDT Ark. Zool. 22A no. 15.

Peakesia fuscomaculata (with var. n. *striata* p. 8) sp. n. Australia p. 6 fig., SJÖSTEDT op. cit. no. 7.

Pedies brunneri see *Neopedies*; *nigri-gena* see *Pseudoscopas*; *bipunctatus* see *Propedies*; *aberrans* see *Apacris*.

Phlaeoba abbreviata sp. n. Celebes p. 212 fig., WILLEMSE Treubia 12 suppl.

Phyllochoreia key p. 9, *westwoodi* sp. n. India p. 20 fig., BOLIVAR Y PIELTAIN Trab. Mus. nac. Madrid Ser. Zool. 46 1930.

Physemophorus gen. n. for *Poecilocerus socotranus* Burr p. 21 fig., KRAUSS Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.

Plagiacris gen. n. p. 13, *bimaculata* sp. n. Fr. Congo p. 14 figs., SJÖSTEDT Ark. Zool. 22A no. 15.

Platypterna revision of Palaearctic spp. pp. 255-347, key p. 266, *filicornis* subsp. n. *judaica* Palestine p. 279, *orientalis* Persia p. 280; *geniculata* Bol. (= *pruinosa agedabiae* Salfi) p. 293; *johnstoni* Sudan p. 281, *ladakiae* Syria p. 300, *nilotica* Egypt p. 311, *sicula* Sicily p. 316, *variopicta* p. 311, *persica* p. 320, *obtusa* p. 324, *affinis* p. 326 Persia, *aethiopica* Abyssinia p. 328, *uvarovi* Armenia, Persia, Mesopotamia p. 342 spp. n. figs., SALFI Eos 7.

Pnorisa squalus Stål (= *Catantops vittatus* Kby.) p. 42, SJÖSTEDT Ark. Zool. 22A no. 15.

Podisma formosana p. 77, *kawakamii* p. 74, *kodamae* p. 72, *rosaceanum* p. 75, *sapporense* p. 76 (with var. n. *longipenne* p. 77), spp. n. Formosa, SHIRAKI Acrid. Japans, Tokyo 1910.—*P. sapporense* ovo-testis in larva pp. 1-5 figs., NATORI Trans. Sapporo N.H. Soc. 12.—*P. schmidtii* subsp. n. *rubripes* Rumania; *alpina* f. n. *leisleri* Carinthia p. 197, RAMME Mitt. zool. Mus. Berl. 17.—*P. morii* sp. n. Korea p. 676 figs., BEI-BIENKO Bol. Soc. esp. Hist. nat. 31.

Podismopsis relictia sp. n. N. Albania p. 124 figs., RAMME Zool. Anz. 93.—*P. gelida* sp. n. Murmansk p. 40 figs., MIRAM Zool. Anz. 97.

Poecilocerus socotranus see *Physemophorus*.

Propedies gen. n. for *Pedies bipunctatus* G. T. p. 275, HEBARD Konowia 10.

Prumna polaris ♀ p. 45 figs., MIRAM Zool. Anz. 97.

Pseudochirista good genus, scope p. 923, key p. 924, *longicornis*, *houyi* Kamerun spp. n. p. 927 figs., RAMME Mitt. zool. Mus. Berl. 16.—*P. temporalis* subsp. n. *fasciata* Fr. Congo p. 15 fig., SJÖSTEDT Ark. Zool. 22A no. 15.—*P. meruensis* see *Ogmothela*.

Pseudomittraria lunda sp. n. Angola p. 134 figs., REHN Proc. Acad. Nat. Sci. Philad. 82.

Pseudoscopas gen. n. for *Pedies nigrigena* Rehn p. 275, HEBARD Konowia 10.

Psychomastax gen. n. p. 242, *psylla* sp. n. U.S.A. p. 243 figs., REHN & HEBARD Trans. Amer. Ent. Soc. 44 1918.

Pteropera biloloca sp. n. Kamerun p. 28 figs., SJÖSTEDT Ark. Zool. 22A no. 15.

Pycnodictya dentata sp. n. S. Arabia p. 3, KRAUSS Anz. Akad. Wiss. Wien 7 1902.

Racilia okinawensis sp. n. Formosa p. 58, SHIRAKI Acrid. Japans, Tokyo 1910.

Ramburiella key to Asiatic spp. p. 165, *foveolata* sp. n. Uzbekistan p. 167 fig., TARBINSKY Bull. Inst. Contr. Pests Dis. 1.

Rastafaria gen. n. p. 931, *abessinica* sp. n. Abyssinia p. 932 figs., RAMME Mitt. zool. Mus. Berl. 16.

Rehnacris corrected spelling for *Rhenacris* (1929) p. 938, RAMME t.c.

Robecchia granulosa sp. n. Br. Somaliland p. 436, UVAROV Ann. Mag. N.H. (10) 7.

Rodunia deceptor f. n. *kilimana* Congo p. 10, SJÖSTEDT Ark. Zool. 22A no. 15.

Rosacris gen. n. p. 30, *antennata* sp. n. Luzon p. 32 fig., BOLIVAR Arch. zool. Torino 15.

Sagonacris see *Paralobopoma*.

Salomonacris gen. n. p. 336, *ruficeps* (type) p. 337, *atriceps* p. 346 spp. n. Solomon Is. figs., WILLEMSE Int. ent. Z. 25.

Schistocerca gregaria tropisms pp. 300-313 figs., FRAENKEL Z. vergl. Physiol. 13 1930; pp. 193-200, DE LÉPINEY Rev. Path. vég. Ent. agric. 18; distribution, migration, generations p. 1485, LESPES, REGNIER & RUNGS C.R. Acad. Sci. Fr. 192; distribution p. 294, VAYSSIÈRE C.R. Acad. Sci. Fr. 193.

Sclerotettix infuscatus Brun., minor Brun. wrongly placed in *Micronotus* p. 264, HEBARD Konowia 10.

Serpusia succursor subsp. n. *deminuta* Kamerun p. 937, RAMME Mitt. zool. Mus. Berl. 16.

Serpusilla gen. n. for *Bibracte malagassa* Brun. p. 938, RAMME t.c.

Spathosternum sinense sp. n. Hainan p. 220, UVAROV Lingnan Sci. J. 10.

Sphingonotus maroccanus sp. n. Morocco p. 212 figs., UVAROV Bull. Soc. Sci. nat. Maroc. 10.—*S. ganglbaueri* sp. n. Sokotra I. p. 21 fig., KRAUSS Denkschr. Akad. Wiss. Wien 71 no. 2 (1907) 1931.—*S. albipennis* sp. n. Sokotra I. p. 4, KRAUSS Anz. Akad. Wiss. Wien 7 1902.

Sphodromerus pantherinus sp. n. S. Arabia p. 3, KRAUSS t.c.

Staurocleis occidentalis sp. n. Gold Coast p. 52 figs., SJÖSTEDT Ark. Zool. 22A no. 15.

Stauroderus eisentrauti sp. n. Carinthia p. 190 fig., RAMME Mitt. zool. Mus. Berl. 17.—*S. rammei* sp. n. Carinthia p. 50, EBNER Carinthia II 37-38 1928.

Stenobothrus divergentibus p. 26, *formosanus* p. 28, *fumatus* p. 25, *magnus* p. 30, *minor* p. 29, spp. n. Formosa, SHIRAKI Acrid. Japans, Tokyo 1910.—*S. posthumus* sp. n. Montenegro p. 188 figs., RAMME Mitt. zool. Mus. Berl. 17.—*S. miramae* sp. n. Crimea p. 711 figs., DIRSH Bol. Soc. esp. Hist. nat. 31.

Stethophyma fuscum new to Germany, European distribution, description, chirping pp. 128-131, KRAUSS Veröffent. Staat. Stelle Naturschutz, Stuttgart 3 1926.

Tanaocerus rugosus sp. n. U.S.A. p. 122 fig., HEBARD Trans. Amer. Ent. Soc. 57.

Tauchira gracilis sp. n. Celebes p. 242 fig., WILLEMSE Treubia 12 suppl.

Tauracris gen. n., *flavolineata* sp. n. Celebes p. 248 fig., WILLEMSE t.c.

Tetanorhynchus insignis sp. n. Argentina, Bolivia p. 267 figs., HEBARD Konowia 10.

Thisoicetrus attenuatus Uv. (= *caudatus* Ramme); *similis* sp. n. Belgian Congo p. 942 fig., RAMME Mitt. zool. Mus. Berl. 16.

Thrinqus aridus see *Heliastus parviceps*.

Traulia ornata sp. n. Formosa p. 68, SHIRAKI Acrid. Japans, Tokyo 1910.

Trigonopteryx celebesia sp. n. Celebes p. 330 fig., WILLEMSE Treubia 12 suppl.

Tristria musanae sp. n. Fr. Congo p. 23, SJÖSTEDT Ark. Zool. 22A no. 15.

Trypophyllum cranonotum see *Medinophyllum xerophylloide*.

Tylotropidius congoensis sp. n. Congo p. 58; *gracilipes* var. n. *longipennis* E. Africa p. 59 fig., SJÖSTEDT Ark. Zool. 22A no. 15.

Uvarovia gen. n. p. 200, *longipennis* sp. n. Dinding I. p. 202 figs., BOLIVAR Y PIELTAIN Trab. Mus. nac. Madrid Ser. Zool. 46 1930.—*U.* revision pp. 383-393, key p. 386, *strigata* Bol. from *Mnesicles* p. 387; *shelfordi* p. 388, *gracilipes* p. 391 spp. n. Borneo figs., BOLIVAR Y PIELTAIN Eos 7.

Uvaroviola gen. n., *multispinosa* sp. n. E. Tibet p. 123 fig., BEI-BIENKO Annu. Mus. zool. Acad. Leningrad 31 1930.

Valanga Indo-Malayan and Oceania spp. pp. 1-26, key p. 2, *nigricornis* subsp. n. *javanica* Java, *keyensis* Key I. p. 9, *batuensis* Batu I. p. 10, *sakoemiensis* p. 11, *fakfakensis* p. 12 New Guinea, *aroensis* Aru I. p. 14; *conspersa* subsp. n. *salomonensis* Solomon Is. p. 15, *badjanica* Badian I. p. 16; *melanoptera* New Guinea p. 17, *willemsi* Aru I. p. 19, *salomonica* Solomon Is. p. 20, *viridipes* Caroline Is. p. 22, *chloropus* Java p. 23 spp. n.; *nobilis* subsp. n. *miokoana* Mioko p. 20; *irregularis* subsp. n. *carolinensis* Caroline Is. p. 21 figs., SJÖSTEDT Ark. Zool. 23A no. 4.—*V. eximia* sp. n. p. 10; *nigricornis* subsp. n. *australiensis* p. 11 Queensland, SJÖSTEDT op. cit. 22A no. 7.—*V. nigricornis* subsp. n. *mangalumensis* Mangalum I. N.W. Borneo p. 93 fig., WILLEMSE Bull. Raffles Mus. 5.

Vitticatantops subgen. n. see *Catanotops*.

Wilverthia lundgreni sp. n. Fr. Congo p. 7 figs., SJÖSTEDT Ark. Zool. 22A no. 15.

Xerophyllum platycorys Westw. (= *fuscum* Bol.) p. 97; *extensum* Hanc. (= *neavei* Hanc.) p. 101, REHN Proc. Acad. Nat. Sci. Philad. 82.

Zacompsa good genus, scope p. 923, key p. 931, RAMME Mitt. zool. Mus. Berl. 16.—*Z. fallax*, *brevipennis*, *rimulata* see *Ogmothela*.

THYSANURA.

Allocampa gen. n. (Campodeidae) p. 313, *bruneri* sp. n. Cuba p. 314 figs., SILVESTRI Boll. Lab. Zool. Portici 24.

Campodea barbouri p. 300, *molineti* p. 302, *bonazzii* p. 304, *pimenteli* p. 306 (with var. n. *orientalis*), *vivaldii* p. 308, *calvinii* p. 311 Cuba, *esterae* p. 319, *tristani* p. 321, *biolleyi* p. 327 Costa Rica, *ortonedae* Ecuador p. 323, *batesoni* Panama p. 325, *mineri* p. 329, *ameghinoi* p. 334 Brazil, *gallardii* p. 331, *lahillei* p. 335, *juradii* p. 337 24 Argentina, *tillyardii* Australia p. 276, *froggattii* Tasmania p. 278, *mondainii* p. 287, *pagei* p. 295 China, *ishii* p. 289, *akiyamae* p. 292 25 Japan, spp. n. figs., SILVESTRI op. cit.—*C. frenata* sp. n. Bulgaria p. 97 figs., SILVESTRI Mitt. naturw. Inst. Sofia 4.

Eutrichocampa orientalis (with var. n. *inferior* p. 306) sp. n. China p. 304 figs., SILVESTRI Boll. Lab. Zool. Portici 25.

Japyx purcelli further description p. 62 (with var. n. *gravior* p. 65); *peringueyi* p. 67, *gilli* p. 69, *mallyi* p. 72, *tragardhi* p. 74, *barnardi* p. 76 (with var. n. *relata* p. 79), *fulleri* p. 80, *hutchinsoni* p. 84, spp. n. S. Africa figs. SILVESTRI Ann. S. Afr. Mus. 30.

Lepidocampa juradii Argentina p. 337 24, *giffardii* Hawaii p. 282, *polettii* p. 312, *takahashii* p. 314 China spp. n.; *weberi* further description p. 309 25 figs., SILVESTRI Boll. Lab. Zool. Portici.

Machilis magnus sp. n. Japan p. 312 [in Japanese with English description], KIMURA Insect Wld., Gifu 18 1914.

Metriocampa leae Australia p. 280, *matsumurae* p. 297, *kuwajamae* p. 299 Japan, *sahi* China p. 302, spp. n. figs., SILVESTRI Boll. Lab. Zool. Portici 25.

Parajapyx afer var. n. *transvaalica* Transvaal p. 82 figs., SILVESTRI Ann. S. Afr. Mus. 30.

Plusiocampa bureschi p. 100, *bulgarica* p. 103, spp. n. Bulgaria figs., SILVESTRI Mitt. naturw. Inst. Sofia 4.—*P. sinensis* sp. n. China p. 307 figs., SILVESTRI Boll. Lab. Zool. Portici 25.

Syncampa gen. n. (Campodeidae) p. 317, *smithii* sp. n. China p. 319 figs., SILVESTRI t.c.

COLLEMBOLA.

Study of cavernicolous Collembola particularly of the Spanish fauna, BONET Mem. Soc. españ. Hist. nat. 14 pp. 231–403 31 figs.

Collembola from Lapland, 1930, BROWN Ann. Mag. N.H. (10) 8 pp. 131–139, 5 figs.

Collembola of Costa Rica with keys and synonymy, list p. 162, DENIS Boll. Lab. Zool. Portici 25 pp. 69–170, 211 figs.

Collembola of C. Schäffer's collection and of the Hamburg Zool. Mus., DENIS Mitt. zool. Mus. Hamburg 44 pp. 197–242, 17 figs.

Annotated list of Collembola from Epping Forest, WOMERSLEY Essex Nat., Stratford 23 pp. 116–120.

Achorutes monoculatus sp. n. no locality p. 207, DENIS Mitt. zool. Mus. Hamburg 44.

Architomocerura gen. n. (nr. *Tomocerura*), *crassicauda* sp. n. no locality p. 219 figs., DENIS t.c.

Beckerella notes p. 71, key p. 73, *tristani* p. 69, *distincta* p. 70, spp. n. Costa Rica figs., DENIS Boll. Lab. Zool. Portici 25; see *Hypogastrura*.

Brachystomella Agr. (= *Guacharia* Jacks.) p. 82, 7-oculata p. 79, *contorta* p. 80, spp. n. Costa Rica figs., DENIS Boll. Lab. Zool. Portici 25.

Ceratimeria C. B. (= *Linnaniemia* Phil.) p. 97, key p. 100, *carli* Den., *albipes* Fols. from *Pseudachorutes* p. 95 figs., DENIS t.c.

Cyphoderopsis see *Troglopedetes*.

Deuterosminthurus marmoratus sp. n. (with var. n. *barnardi* pp. 137, 150) S. Africa p. 149 figs., WOMERSLEY Ann. S. Afr. Mus. 30.

Dicranocentrus silvestrii further description p. 147 figs., DENIS Boll. Lab. Zool. Portici 25.

Dicyrtomina minuta f. n. *africana* S. Africa p. 150 figs., WOMERSLEY Ann. S. Afr. Mus. 30.

Drepanocyrtus reinhardi sp. n. U.S.A. p. 9 fig., MILLS Amer. Mus. Nov. no. 464.

Entomobrya litigiosa p. 130, *simulans* p. 133, *protifasciata* p. 134, **spp. n.** Costa Rica figs., DENIS Boll. Lab. Zool. Portici 25.—*E. guthriei* p. 4, *pseudoperpulchra* p. 5, *sabulicola* p. 7, **spp. n.** U.S.A. figs., MILLS Amer. Mus. Nov. no. 464.

Folsomia prima **sp. n.** U.S.A. p. 3 fig., MILLS t.c.

Folsomides americanus p. 126, *lonychiurina* p. 128, **spp. n.** Costa Rica figs., DENIS Boll. Lab. Zool. Portici 25.

Friesea synonymy, key p. 86, *reducta* p. 83, *magnicornis* p. 84, **spp. n.** Costa Rica figs., DENIS t.c.

Guacharia see *Brachystomella*.

Heteromurus diommatus p. 143, *schötti* p. 145, *bidentatus* p. 147, **spp. n.** Costa Rica figs., DENIS Boll. Lab. Zool. Portici 25.—*H. hispanica* **sp. n.** Spain p. 354 fig., BONET Mem. Soc. españ. Hist. nat. 14.

Hypanurida mirabilis **sp. n.** no locality p. 206 fig., DENIS Mitt. zool. Mus. Hamburg 44.

Hypogastrura spinifer further description p. 203 fig., DENIS t.c.—*H.* subgen. *Mesogastrura* Bon. (= *Beckerella* Caroli, Schöttella Denis) p. 294, BONET Mem. Soc. españ. Hist. nat. 14.—*H. boldorii*, *minuta* p. 80, *intermedia* p. 81, **spp. n.** Italy, DENIS Mem. Soc. ent. ital. 10.—*H. manubrialis* Tullb. (= *moniezi* Den.) p. 74, DENIS Boll. Lab. Zool. Portici 25.

Isotomina key p. 123, *hirsuta* p. 120, *separata* p. 121, **spp. n.** Costa Rica figs., DENIS Boll. Lab. Zool. Portici 25.

Isotomurus alticolus new to Italy p. 97 fig., BONET Eos 7.

Lepidocyrtinus domesticus **ff. n.** *colorata*, *violaceapallipes* Costa Rica p. 142 fig., DENIS Boll. Lab. Zool. Portici 25.

Lepidocyrtus mutabilis p. 136, *exageratus* p. 138, *geayides* p. 139, **spp. n.** Costa Rica figs., DENIS t.c.—*L. folsomi* **sp. n.** U.S.A. p. 10 fig., MILLS Amer. Mus. Nov. no. 464.

Linnaniemia see *Ceratimeria*.

Oncopodura key p. 366, *occidentalis* **sp. n.** Spain p. 367 fig., BONET Mem. Soc. españ. Hist. nat. 14.

Onychiurus key p. 103, *cryptopygus* p. 101, *encarpatus*, *subcadaverinus* p. 102, **spp. n.** Costa Rica figs., DENIS Boll. Lab. Zool. Portici 25.—*O. postumicus* **sp. n.** Italy p. 95 fig., BONET Eos 7.

Orchesella maledicta **sp. n.** Italy p. 83, DENIS Mem. Soc. ent. ital. 10.—*O. capreana* **sp. n.** Capri p. 229, DENIS Mitt. zool. Mus. Hamburg 44.

Paronella carpenteri further description p. 151; *distinguenda* **sp. n.** Costa Rica p. 152 figs., DENIS Boll. Lab. Zool. Portici 25.

Proisotoma lapponica **sp. n.** Lapland p. 134 fig., BROWN Ann. Mag. N.H. (10) 8.—*P. bayouensis* **sp. n.** U.S.A. p. 1 fig., MILLS Amer. Mus. Nov. no. 464.—*P.* key p. 115, *centralis* p. 111, *filifera*, *subminuta* p. 112, **spp. n.** Costa Rica figs., DENIS Boll. Lab. Zool. Portici 25.

Pseudachorutes key p. 91, *difficilis* p. 88, *5-oculatus* p. 89 **spp. n.** Costa Rica figs., DENIS t.c.—*P. carli*, *albipes* see *Ceratimeria*.

Pseudosinella key p. 317, *duodecimo-culata* p. 324, *suboculata* p. 326, *inflata* p. 334, *subvirei* p. 335, *stygia* p. 339, *pyrenaea* p. 345, **spp. n.** Spain figs., BONET Mem. Soc. españ. Hist. nat. 14.—*P. duodecimpunctata* **sp. n.** Italy p. 82, DENIS Mem. Soc. ent. ital. 10.—*P. folsomi* **sp. n.** U.S.A. p. 226 fig., DENIS Mitt. zool. Mus. Hamburg 44.

Rastriopes lineata **sp. n.** S. Africa p. 144 figs., WOMERSLEY Ann. S. Afr. Mus. 30.

Salina tristani **sp. n.** Costa Rica p. 149 figs., DENIS Boll. Lab. Zool. Portici 25.

Schöttella see *Hypogastrura*.

Sinella curviseta further description p. 135, DENIS Boll. Lab. Zool. Portici 25.

Sminthurides sexpinnatus **sp. n.** Costa Rica p. 156 figs., DENIS t.c.

Sminthurus terrestris p. 138, *pallidus* p. 143, **spp. n.** S. Africa figs., WOMERSLEY Ann. S. Afr. Mus. 30.

Tomocerus, *Tritomurus* a subgen. of, *terrestrialis* Stach in subgen. *Tomocerus* p. 103; *flavescens* anatomical notes p. 99; *scutellatus* further description p. 100 figs., BONET Eos 7.

Troglopedetes Absolon (= *Cyphoderopsis* Carp.) p. 362, key, *absoloni* **sp. n.** Spain p. 363 fig., BONET Mem. Soc. españ. Hist. nat. 14.

Xenylla grisea f. n. *brevifurcata* p. 75 ;
proxima sp. n. Costa Rica, key p. 77
 figs., DENIS Boll. Lab. Zool. Portici 25.
 —*X. humicola* in Spitzbergen p. 131,
 CAROLI Boll. Zool., Naples 2.

PROTURA.

Ecology of Protura, IONESCO Bull.
 Acad. Roumanie 13 1930 pp. 223-227,
 2 figs.

Morphology of Protura, TUXEN Z.
 Morph. Oekol. Tiere 22 pp. 671-720, 20
 figs.

Danish Protura, TUXEN Ent. Medd.
 17 pp. 306-311, 3 figs.

Acerentulus capensis sp. n. S. Africa
 p. 90 figs., WOMERSLEY Ann. S. Afr.
 Mus. 30.

FOSSILS.

Fossil insects of the oil shale of Green
 River formation of Colorado and Utah,
 BRADLEY Prof. Pap. U.S. Geol. Surv.
 168 pp. 49-51 28 pls. 2 maps 2 graphs.

Permian insects of Brazil, EUZEBIO
 DE OLIVEIRA Ann. Acad. Bras. Sci. 2
 1930 pp. 215-218.

Thermophilous relicts of the Tertiary
 and Postglacial periods, KOLBE Zool.
 Anz. 95 pp. 113-136.

Critical notes on Zalessky's and Car-
 penter's papers on Permian insects,
 MARTYNOV Trav. Mus. géol. Acad. Sci.
 U.S.S.R. 8 p. 212.

Fossil insects of coal forests, especi-
 ally in S. Wales, NORTH Trans. Cardiff
 Nat. Soc. 62 pp. 16-44, 3 pls. 10 figs.

Fossil insects of Siebenbürgen, PON-
 GRÁCZ Pub. Muz. jud. Hunedoara 25-26
 1928 pp. 113-123, 5 figs. 1 chart.

Notes on Oeningen fossil insects with
 revision of Heer's types, PONGRÁCZ
 Verh. naturh.-med. Ver. Heidelberg 17
 pp. 104-125, 9 pls. 9 figs.

Fossil insects of the Belgian coalfields,
 PRUVOST Mem. Mus. Hist. nat. Belg. 44
 1930 pp. 142-167 figs.

Fossil fauna of Böttingen (Swabia).
 marble, ZEUNER Fortschr. Geol. Palä-
 ont. 9 pp. 247-406, 19 pls. 31 figs.

Coleoptera.

Adelocera (Elateridae) *perantiqua*
 sp. n. Eocene Colorado p. 359 figs.,
 COCKERELL & LE VEQUE Amer. Nat.
 65.

Dytiscus latahensis sp. n. Miocene
 (Latah), Washington p. 318 fig., WICK-
 HAM Ann. Ent. Soc. Amer. 24.

Hydrophilus kuntzeni sp. n. Böttingen,
 Swabia p. 300 figs., ZEUNER Fortschr.
 Geol. Paläont. 9.

Otiorrhynchus boettingensis sp. n. Böt-
 tingen, Swabia p. 301 fig., ZEUNER t.c.

Permarrhaphidae fam. n. Permian,
 Russia p. 190, MARTYNOV Trav. Mus.
 géol. Acad. Sci. U.S.S.R. 8.

Permarrhaphus gen. n. p. 190,
venosus sp. n. Permian, Russia p. 191
 figs., MARTYNOV t.c.

Pseudosilphites gen. n. (nr. *Silpha*), tri-
 assicus sp. n. Trias Germany p. 462 figs.,
 ZEUNER Jahrb. preuss. geol. LdAnst.
 51 1930.

Pterostichus (Carabidae) *fernquisti*
 sp. n. Miocene (Latah), Washington fig.,
 WICKHAM Ann. Ent. Soc. Amer. 24.

Triadocoleopteron gen. n., *spectabile*
 sp. n. Trias Germany p. 466 fig.,
 ZEUNER Jahrb. preuss. geol. LdAnst.
 51 1930.

Xiphenax gen. n., *jurassicus* sp. n.
 Jurassic, New Mexico p. 97 fig.,
 COCKERELL Bull. Brooklyn Ent. Soc.
 26.

Hymenoptera and Protohy- menoptera.

Additions to Protohymenoptera of
 lower Permian, Kansas, CARPENTER
 Amer. J. Sci. (5) 22 pp. 126-129, 1 fig.

Andrena (Apidae) *wrisleyi* sp. n.
 Baltic amber p. 141 figs., SALT Bern-
 steinforsch. 2.

Apis armbrusteri sp. n. Böttingen,
 Swabia p. 292 figs., ZEUNER Fortschr.
 Geol. Paläont. 9.

Aspidohymenidae fam. n. Permian, Russia p. 80, MARTYNOV Trav. Mus. géol. Acad. Sci. U.S.S.R. 6 1930.

Aspidohymen gen. n. p. 80, *extensus* sp. n. Permian, Russia p. 81 figs., MARTYNOV t.c.

Bombus (Apidae) *proavus* sp. n. Miocene (Latah), Washington p. 309 fig., COCKERELL Ann. Ent. Soc. Amer. 24.

Ctenoplectrella (Apidae) *dentata* sp. n. Baltic amber p. 139 figs., SALT Bernsteinforsch. 2.

Glyptapis (Apidae) *neglecta* sp. n. Baltic amber p. 136 figs., SALT t.c.

Odynerus (Eumenidae) *palaeophilus* enlarged photograph p. 212, COCKERELL Ent. News 42.

Sphex bischoffi sp. n. Böttingen, Swabia p. 286 figs., ZEUNER Fortschr. Geol. Paläont. 9.

Tryphon (Ichneumonidae) *amasidis* sp. n. Eocene Colorado p. 356 figs., COCKERELL & LE VEQUE Amer. Nat. 65.

Lepidoptera.

Chionaemopsis gen. n. (Arctiidae) (nr. *Chionaema*) p. 354, *quadrifasciatus* sp. n. Eocene Colorado p. 355 figs., COCKERELL & LE VEQUE Amer. Nat. 65.—*C. quadrifasciatus* wing compared with that of *Atteva aurea* p. 479 figs., FORBES Amer. Nat., New York 65.

Trichoptera.

Miopsyche gen. n. (Limnephilidae) p. 320, *alexanderi* (type) p. 321, *martynovi* p. 322, spp. n. Miocene (Latah), Washington figs., CARPENTER Ann. Ent. Soc. Amer. 24.

Phryganea spokanensis sp. n. Miocene (Latah), Washington p. 320 fig., CARPENTER t.c.

Neuroptera.

Pernegalomus gen. n. (Palaemerobiidae) p. 186, *regularis* sp. n. Permian, Russia p. 187 fig., MARTYNOV Trav. Mus. géol. Acad. Sci. U.S.S.R. 8.

Mecoptera.

Notes on some Mecoptera, CARPENTER J. N.Y. Ent. Soc. 39 pp. 411–414.

Bittacus antiquus see *Electrobittacus*.

Electrobittacus gen. n. for *Bittacus antiquus* Pict. p. 410, CARPENTER J. N.Y. Ent. Soc. 39.

Electropanorpa gen. n. (Panorpidae) for *Panorpa brevicauda* Hag. p. 409, CARPENTER t.c.

Holcorpa maculosa affinities p. 405 figs., CARPENTER t.c.

Notiothauma reedi ♂ genitalia, terminal structures compared with related Holometabola pp. 1–21 figs., CRAMPTON Psyche 38.

Panorpa brevicauda see *Electropanorpa*.

Permochorista (Meochoristidae) *rossica* sp. n. Permian, Russia p. 181 fig., MARTYNOV Trav. Mus. géol. Acad. Sci. U.S.S.R. 8.

Petrochorista gen. n. (Mesochoristidae) p. 182, *elegantula* (type) p. 183, *parvula*, *minuta* p. 185 spp. n. Permian, Russia figs., MARTYNOV t.c.

Petromantis (Meochoristidae) *major* sp. n. Permian, Russia p. 180 figs., MARTYNOV t.c.

Diptera.

Revision of Tipulidae of Baltic amber, ALEXANDER Bernsteinforsch. 2 pp. 1–135, 168 figs.

TIPULIDAE.

Dactylolabis (*Idiolabis* subgen. n.) p. 59, *terebrella*, *vetusta* p. 60, spp. n. Baltic amber figs., ALEXANDER Bernsteinforsch. 2.

Dicranoptycha electrina sp. n. Baltic amber figs. p. 40, ALEXANDER t.c.

Electplabis gen. n., *extincta* sp. n. Baltic amber p. 58 figs., ALEXANDER t.c.

Electrogonomyia subgen. n. see *Gonomyia*.

Electrotipula subgen. n. see *Tipula*.

Elephantomyia baltica sp. n. Baltic amber p. 88 fig., ALEXANDER t.c.

Eriocera plastica sp. n. Baltic amber p. 86, ALEXANDER t.c.

Erioptera arcuata p. 105, *platyphylla* p. 107, *duplicata* p. 108, *diacantha* p. 109, *axillaris*, *subabortiva* p. 110, *rectistyla* p. 111, spp. n. Baltic amber figs., ALEXANDER t.c.

Gnophomyia inferna, *parvicellula* spp. n. Baltic amber p. 122 figs., ALEXANDER t.c.

Gonomyia (*Electrogonomyia* subgen. n.) *pinetorum* p. 118, (*Gonomyia*) *oligocenica* p. 119 spp. n. Baltic amber figs., ALEXANDER t.c.

Hexatoma minuta sp. n. Baltic amber p. 84 fig., ALEXANDER t.c.

Idiolabis subgen. n. see *Dactylolabis*.

Limnophila servilis p. 72, *samländica* p. 73, *skwarrae* p. 74, spp. n. Baltic amber figs., ALEXANDER t.c.—*L. concinna maculata* see *Pseudolimnophila loewiella*.

Ormosia skwarrae p. 100, *electrella* p. 101, *torquisti*, *beurleni* p. 102, spp. n. Baltic amber figs., ALEXANDER t.c.

Palaeopoecilostola longicornis subsp. n. *parallela* Baltic amber p. 48 fig., ALEXANDER t.c.

Phyllolabis andréei sp. n. Baltic amber p. 52 figs., ALEXANDER t.c.

Pilaria batheri p. 81, *baltica* p. 82, spp. n. Baltic amber figs., ALEXANDER t.c.

Pseudolimnophila loewiella n. n. for *Limnophila concinna maculata* Meun. nec Mg., Macq. p. 63; *timida* p. 65, *pinicola* p. 67, *inculcata* p. 68, *ambigua* p. 70, spp. n. Baltic amber figs., ALEXANDER t.c.

Rhabdomastix klebsi p. 113, *brevis* p. 117, spp. n. Baltic amber figs., ALEXANDER t.c.

Tanymera gen. n. p. 75, *fritschii* (type), *terminans* p. 78, *arguta* p. 76, *berendti* p. 79, spp. n. Baltic amber figs., ALEXANDER t.c.

Thaumastoptera electra sp. n. Baltic amber p. 41 figs., ALEXANDER t.c.

Tipula (*Electrotipula* subgen. n.) p. 21, *pinetorum* p. 22, *submedia*, *digitifera* p. 26, *phoracantha*, *presliana* p. 27, *spinistyla*, *falco* p. 30, *handlirschiana*, *scudleriana* p. 32, *meunieri* p. 36, *flagellata* p. 38, spp. n. Baltic amber figs., ALEXANDER t.c.

Trentepohlia dampfiana sp. n. Baltic Amber p. 123, ALEXANDER t.c.

Trichoneura gracilistylus sp. n. Baltic amber p. 57 figs., ALEXANDER t.c.

Tricyphona succinea, *sepulchralis* p. 94, *electrina* p. 95, spp. n. Baltic amber figs., ALEXANDER t.c.

SYRPHIDAE.

Chilosia scudleri sp. n. Eocene Colorado p. 357 figs., COCKERELL & LEVEQUE Amer. Nat. 65.

Syrphopsis gen. n., *globosiceps* sp. n. Böttingen, Swabia p. 316 figs., ZEUNER Fortschr. Geol. Paläont. 9.

Hemiptera.

Hemiptera of lower Permian, Kansas, CARPENTER Amer. J. Sci. (5) 22 pp. 113–123, 5 figs.

Archeglyphis gen. n. (Prosbolidae), *crassinervis* sp. n. Kuznetsk Basin p. 89 fig., MARTYNOV Bull. Geol. Prosp. Serv. Moscow 49 1930 no. 10.

Cicadopsyllinae subfam. n. (Permopsyllidae) Permian, Russia p. 172, MARTYNOV Trav. Mus. géol. Acad. Sci. U.S.S.R. 8.

Cicadopsylla gen. n. (Permopsyllidae), *permiana* sp. n. Permian, Russia p. 173 figs., MARTYNOV t.c.

Latahcoris gen. n. (Pentatomidae), *spectatus* sp. n. Miocene (Latah), Washington p. 312 fig., COCKERELL Ann. Ent. Soc. Amer. 24.

Paleoscytina gen. n. (Archescytinidae), *brevistigma* sp. n. lower Permian, Kansas p. 118 fig., CARPENTER Amer. J. Sci. (5) 22.

Pereboria gen. n. (Prosbolidae), *bella* sp. n. Permian, Petchora Basin p. 1021 figs., ZALESKY Bull. Acad. Leningrad 1930.

Permopsylla (Archescytinidae) *permiana* p. 120, *minuta* p. 121 spp. n. lower Permian, Kansas figs., CARPENTER Amer. J. Sci. (5) 22.

Probole tchirkovaeana sp. n. Permian, Kama Basin p. 1018 figs., ZALESKY Bull. Acad. Leningrad 1930.

Protoliarus (Fulgoridae) *amabilis* sp. n. Eocene Colorado p. 355 figs., COCKERELL & LEVEQUE Amer. Nat. 65.

Scytinoptera signata sp. n. Permian, Russia p. 172 fig., MARTYNOV Trav. Mus. géol. Acad. Sci. U.S.S.R. 8.

Sojanoneura (Prosbolidae) *marginata* sp. n. Permian, Russia p. 167 figs., MARTYNOV t.c.

Isoptera.

Phylogeny of termite wings, PONGRÁČZ Pub. Muz. jud. Hunedoara 25-26 1928 pp. 122-123, 1 chart.

Stylotermes washingtonensis sp. n. Miocene (Latah), Washington p. 317 fig., SNYDER Ann. Ent. Soc. Amer. 24.

Termopsis transsylvanica p. 114, *mallászi* p. 118, spp. n. Siebenbürgen figs., PONGRÁČZ Pub. Muz. jud. Hunedoara 25-26 1928.

Palaeodictyoptera.

Palaeodictyoptera of lower Permian, Kansas, CARPENTER Amer. J. Sci. (5) 21 pp. 97-99.

Additions to Palaeodictyoptera of lower Permian, Kansas, CARPENTER Amer. J. Sci. (5) 22 pp. 123-126, 2 figs.

Anthracosta duboisi sp. n. Belgium p. 147 figs., PRUVOST Mem. Mus. Hist. nat. Belg. 44 1930.

Cleffia gen. n. (Dictyonuridae), *sarana* sp. n. Saar p. 91 figs., GUTHÖRL Centralbl. Min. Geol. Paläont., Stuttgart 2 (B).

Neuburgia gen. n. (Spilapteridae) p. 74, *altaica* sp. n. Kuznetsk Basin p. 75 fig., MARTYNOV Bull. Geol. Prosp. Serv. Moscow 49 1930 no. 10.

Permoneuridae fam. n. p. 124, CARPENTER Amer. J. Sci. (5) 22.

Permoneura gen. n. (Permoneuridae), *lameerei* sp. n. lower Permian, Kansas p. 124 fig., CARPENTER t.c.

Sabitaptus lagagei sp. n. Belgium p. 149 figs., PRUVOST Mem. Mus. Hist. nat. Belg. 44 1930.

Severinula gen. n. (Cryptoveniidae), *leopoldi* sp. n. Belgium p. 151 figs., PRUVOST t.c.

Odonata and Protodonata.

Protodonata and Odonata of lower Permian, Kansas, with studies on phylogeny, CARPENTER Amer. J. Sci. (5) 21 pp. 99-139, 6 figs.

Miocordulia gen. n. (Libellulidae, Cordulinae) p. 313, *latipennis* sp. n. Miocene (Latah), Washington p. 314 figs., KENNEDY Ann. Ent. Soc. Amer. 24.

Oligotypus gen. n. (Meganeuridae), *tillyardi* sp. n. lower Permian, Kansas p. 106 figs., CARPENTER Amer. J. Sci. (5) 21.

Permaeschnidae fam. n. p. 141, MARTYNOV Bull. Acad. Leningrad 1931 no. 1.

Permaeschna gen. n. p. 141, *dolloi* (type) p. 143, *proxima* p. 145 spp. n. Permian, Archangelsk figs., MARTYNOV t.c.

Permanisoptera sub. order n. n. for Protanisoptera Martyn. (March) nec Carpent. (Feb.) p. 246, MARTYNOV C.R. Acad. Sci. U.R.S.S. (A) 1931.

Progoneura gen. n. (Kennedyidae), *minuta* sp. n. lower Permian, Kansas p. 119, CARPENTER Amer. J. Sci. (5) 21.

Protanisoptera subord. n. p. 122, CARPENTER t.c.

Protanisoptera subord. n. (nr. Anisoptera) p. 146, MARTYNOV Bull. Acad. Leningrad 1931 no. 1; see Permanisoptera.

Sushkinia gen. n. (Kennedyidae) p. 71, (type) *parvula* p. 72, *elongata* p. 73 spp. n. Permian, Russia figs., MARTYNOV Trav. Mus. géol. Acad. Sci. U.S.S.R. 6 1930.

Tillyardiella gen. n. (Protagriidae), *distincta* sp. n. Permian, Russia p. 76 fig., MARTYNOV t.c.

Orthoptera and Protorthoptera.

Notes on R. Shelford's "The British Museum Collection of Blattidae enclosed in Amber" in J. Linn. Soc. Lond. Zool. 32 1911 pp. 59-69, ANDRÉE Cbl. Min. Geol. Paläont., Stuttgart (B) 6 1931 pp. 316-317.

Cacurgidae Handl. (Protoblattoidea) includes Omaliidae Handl. p. 157, PRUVOST Mem. Mus. Hist. nat. Belg. 44 1930.

Systematic and nomenclatorial notes on Miomoptera, MARTYNOV Bull. Acad. Leningrad 1930 pp. 960-975, 1126-1134 figs.

Atactophlebiidae fam. n. (near Lemmatophoridae) Permian, Kama Basin p. 952, MARTYNOV Bull. Acad. Lenin-grad 1930.

Atactophlebia termitoides redescribed p. 953, MARTYNOV t.c.

Camptoneura see *Camptoneurites*.

Camptoneurites n. n. for *Camptoneura* Mart. praecoc. p. 961, MARTYNOV t.c.

Camptoneuritidae n. n. for *Camptoneuridae* p. 98, MARTYNOV Bull. Geol. Prosp. Serv. Moscow 49 1930 no. 10; also p. 961 Bull. Acad. Leningrad 1930.

Coselia see *Omalia*.

Delopsocus see *Pseudomantis*.

Euthygramma (Protorthoptera) *curvatum* sp. n. Permian, Russia p. 163 fig., MARTYNOV Trav. Mus. géol. Acad. Sci. U.S.S.R. 8.

Gryllotalpa (Gryllidae) *miocaenica* sp. n. Böttingen, Swabia p. 260 figs., ZEUNER Fortschr. Geol. Paläont. 9.

Kazanella gen. n. (Lematophoridae), *rotundipennis* (type) p. 1116, *compressa* p. 1117 spp. n. Permian, Kama Basin figs., MARTYNOV Bull. Acad. Leningrad 1930.

Leptoneurula see *Pseudomantis*.

Mantis boettingensis sp. n. Böttingen, Swabia p. 285 figs., ZEUNER Fortschr. Geol. Paläont. 9.

Metoedischia (Oedischidae) *kamensis* sp. n. Permian, Russia p. 159 fig., MARTYNOV Trav. Mus. géol. Acad. Sci. U.S.S.R. 8.

Miocaenacris gen. n. (Acrididae), *soergeli* sp. n. Böttingen, Swabia p. 275 figs., ZEUNER Fortschr. Geol. Paläont. 9.

Miomatoneura parvula sp. n. Permian, Kama Basin p. 1125 figs., MARTYNOV Bull. Acad. Leningrad 1930.

Narkemina gen. n. (Narkemidae), *angustata* sp. n. Kuznetsk Basin p. 81 fig., MARTYNOV Bull. Geol. Prosp. Serv. Moscow 49 1930 no. 10.

Oiratia gen. n. (Prodnisidae), *valida* sp. n. Kuznetsk Basin p. 86 figs., MARTYNOV t.c.

Olethrobatta (Archimylacridae) *minuta* sp. n. Saar p. 138 figs., GUTHÖRL Verh. naturh. Ver. preuss. Rheinl. 86 1930.

Omalia Van Bened. and Coemans (= *Palaeomastax* Handl., *Coselia* Bolt.) p. 157, PRUVOST Mem. Mus. Hist. nat. Belg. 44 1930.

Omalidae see Cacurgidae.

Pachytylopsis (Protorthoptera) *dorlodoti* p. 154, *stainieri* p. 155, spp. n. Belgium figs., PRUVOST t.c.

Palaeomastax see *Omalia*.

Parellthoblatta (Blattariae) *straeleni* sp. n. Belgium p. 161 figs., PRUVOST t.c.

Permacridites gen. n. (Stenaropodidae) p. 156, *maximus* sp. n. Permian, Russia/ fig., MARTYNOV Trav. Mus. géol. Acad. Sci. U.S.S.R. 8. 26/57

Phylloblatta (Archimylacridae) *regularis* sp. n. Kuznetsk Basin p. 77 figs., MARTYNOV Bull. Geol. Prosp. Serv. Moscow 49 1930 no. 10.—*P. oliveirai* sp. n. Permian, Brazil p. 1 fig., CARPENTER Bol. Serv. geol. min. Brazil, Rio de Janeiro 50 1930.—*P. girardi* sp. n. carboniferous S.W. France p. 251 figs., PENEAU Bull. Soc. géol. Fr., Paris (4) 30 1930.—*P. latiuscula* p. 150, *tartarica* p. 152 spp. n. Permian, Russia figs., MARTYNOV Trav. Mus. géol. Acad. Sci. U.S.S.R. 8.

Pinegia (Oedischidae) *fenestrata* sp. n. Permian, Russia p. 161 fig., MARTYNOV t.c.

Protocatantops gen. n. (Acrididae), *gracilis* (type) p. 262, *miocaenicus* p. 270 spp. n. Böttingen, Swabia figs., ZEUNER Fortschr. Geol. Paläont. 9.

Pseudomantis Mart. (= *Leptoneurula* Mart., *Delopsocus* Tilly.) p. 1122, *furcatula* sp. n. Permian, Kama Basin p. 1124 figs., MARTYNOV Bull. Acad. Leningrad 1930.

Rammea gen. n. (Tettigoniidae), *laticeps* sp. n. Böttingen, Swabia p. 253 figs., ZEUNER Fortschr. Geol. Paläont. 9.

Rammeinae subfam. n. (Tettigoniidae) p. 259, ZEUNER t.c.

Sindon (Oryctoblattinidae) *rossicum* sp. n. Permian, Russia p. 154 fig., MARTYNOV Trav. Mus. géol. Acad. Sci. U.S.S.R. 8.

Tomioblatta gen. n. (Archimylacridae), *furcatella* sp. n. Kuznetsk Basin fig., MARTYNOV Bull. Geol. Prosp. Serv. Moscow 49 1930 no. 10.

Ungoneurites gen. n. (? Camptoneuritidae), *paucinervis* sp. n. Kuznetsk Basin p. 84 figs., MARTYNOV t.c.

Megasecoptera.

Palaeopalara Handl. (= *Anthraco-palara* Handl.) p. 164, PRUVOST Mem. Mus. Hist. nat. Belg. 44 1930.

Kuloja from Megasecoptera to Synsecoptera p. 84, MARTYNOV Trav. Mus. géol. Acad. Sci. U.S.S.R. 6 1930.

Protelytroptera.

Protelytroptera ord. n. p. 234, relationship with other orders discussed pp. 255-265, TILLYARD Amer. J. Sci. (5) 21.

Acosmelytridae fam. n. p. 252, TILLYARD t.c.

Acosmelytron gen. n. (Acosmelytridae), *elongatum* (type) p. 253, *acutum*, *delicatum* p. 254 spp. n. lower Permian, Kansas figs., TILLYARD t.c.

Blattelytridae fam. n. p. 249, TILLYARD t.c.

Blattelytron gen. n. (Blattelytridae) *permianum* sp. n. lower Permian, Kansas p. 250 figs., TILLYARD t.c.

Megelytron gen. n. (Protelytridae), *robustum* sp. n. lower Permian, Kansas p. 247 figs., TILLYARD t.c.

Parablattelytron gen. n. (Blattelytridae), *subincisum* (type) p. 251, *rectum* p. 252 spp. n. lower Permian, Kansas figs., TILLYARD t.c.

Permelytridae fam. n. p. 246, TILLYARD t.c.

Permelytron gen. n. (Permelytridae) p. 246, *schucherti* sp. n. lower Permian, Kansas p. 247 fig., TILLYARD t.c.

Protelytridae fam. n. p. 235, TILLYARD t.c.

Protelytron gen. n. (Protelytridae) p. 239, *permianum* (type) p. 240, *dunbari* p. 242 spp. n. lower Permian, Kansas figs., TILLYARD t.c.

Protelytropis gen. n. (Protelytridae), *grandis* sp. n. lower Permian, Kansas p. 245 fig., TILLYARD t.c.

ERRATA.

Vol. xlvii, 1910, p. 390, transfer *Nesochrysa geayi* to *Nothochrysa*.

Vol. lv, 1918, p. 194, transfer *Micrasema* to Trichoptera.

Vol. lix, 1922, p. 358, transfer *Leptocella* to Trichoptera.

Vol. lx, 1923, pp. 268, 269, transfer *Hydropsyche*, *Limnophilus* and *Stenophylax* to Trichoptera, and *Taeniopteryx* to Plecoptera.

Vol. lxi, 1924, p. 303, 2nd col., 10 lines from end, before "nana" insert "Capnia"

Vol. lxii, 1925, p. 294, 2nd col., line 1, before "GRIBODO" insert "BLÜTHGEN in"

Vol. lxiii, 1926, p. 304, transfer *Salagena* to Metarbelidae.

Vol. lxiii, 1926, p. 342, 2nd col., line 16, insert "p. 66"

Vol. lxiii, 1926, p. 344, transfer *Parooderella* to EUPELMIDAE.

Vol. lxiii, 1926, p. 405, for "*Stenopomia*" read "*Stenoponia*"

Vol. lxiii, 1926, p. 411, transfer *Phanostoma* to Trichoptera.

Vol. lxiii, 1926, p. 457, for "*Neanis*" read "*Neanias*"

Vol. lxiv, 1927, p. 27, no. 515, for "44" read "14"

Vol. lxiv, 1927, p. 195, 1st col., transfer "*Arthrobrachys*" to DASYTIDAE.

Vol. lxiv, 1927, p. 249, 2nd col., for "*Theolosia*" read "*Thelosia*" and transfer to BOMBYCIDAE.

Vol. lxiv, 1927, p. 297, transfer *Phaenoserphus* to PROCTOTRUPIDAE.

Vol. lxiv, 1927, p. 363, 2nd col., line 1, for "*Eustelia*" read "*Euestelia*"

Vol. lxv, 1928, p. 91, no. 2008, and p. 270, 2nd col., 7 lines from end, for "14" read "44" and for "15" read "45"

- Vol. lxv, 1928, p. 423, 2nd col., line 10, for "*dicranocena*" read "*dicranocenca*"
- Vol. lxv, 1928, p. 427, 2nd col., transfer *Campodea* to Thysanura.
- Vol. lxvi, 1929, p. 170, transfer *Mülleriella* to SILPHIDAE.
- Vol. lxvi, 1929, p. 185, 2nd col., line 36, for "*y-maculata*" read "*7-maculata*"
- Vol. lxvi, 1929, p. 189, 2nd col., transfer *Laiomorphus* to CLERIDAE.
- Vol. lxvi, 1929, p. 239, 2nd col., line 18, for "p. 20" read "p. 21"
- Vol. lxvi, 1929, p. 240, 1st col., line 9, for "*plutonis*" read "*plutonium*"
- Vol. lxvi, 1929, p. 240, 2nd col., line 29, for "Japan" read "Formosa"
- Vol. lxvi, 1929, p. 242, 1st col., line 10, for "p. 228" read "p. 229"
- Vol. lxvi, 1929, p. 242, 1st col., line 22, for "*flavescens*" read "*fluvescens*"
- Vol. lxvi, 1929, p. 244, 1st col., line 26, for "*carpentana*" read "*carpetana*"
- Vol. lxvi, 1929, p. 244, 1st col., line 47, for "p. 122" read "p. 222"
- Vol. lxvi, 1929, p. 247, 1st col., 4 lines from end, for "p. 306" read "p. 396"
- Vol. lxvi, 1929, p. 248, 1st col., 12 lines from end, for "*aemon*" read "*acmon*"
- Vol. lxvi, 1929, p. 248, 2nd col., 3 lines from end, for "Japan" read "Formosa"
- Vol. lxvi, 1929, p. 249, 1st col., line 40, for "♀" read "♂"
- Vol. lxvi, 1929, p. 251, transfer *Leucothyris* to DANAIDAE.
- Vol. lxvi, 1929, p. 253, 1st col., line 4, "*insigniamiscens*" sp. n., not r. n. of *alveus*.
- Vol. lxvi, 1929, p. 253, 1st col., line 21, for "Japan" read "Formosa"
- Vol. lxvi, 1929, p. 253, 1st col., line 26, after "*infraurata*" insert Italy and line 27, for "Italy" read "Catalonia"
- Vol. lxvi, 1929, p. 260, 2nd col., line 21, for "*Pechipogon*" read "*Pechipogo*" and line 23, after "1912" insert "pt. 2"
- Vol. lxvi, 1929, p. 261, 2nd col., line 24, for "*Semasia*" read "*Sesamia*"
- Vol. lxvi, 1929, p. 287, transfer *Mnesarchaea* to MICROPTERYGIDAE.
- Vol. lxvi, 1929, p. 300, transfer *Cleptes* to CHRYSIDIDAE.
- Vol. lxvi, 1929, p. 316, transfer *Chelonus* to BRACONIDAE.
- Vol. lxvii, 1930, p. 60, no. 1265, for "6" read "27"
- Vol. lxvii, 1930, p. 76, no. 1620, & p. 149, 2nd col., line 15, for "Lindiger" read "Lindinger"
- Vol. lxvii, 1930, p. 123, no. 2724, for "Naterl. naturk." read "vaterl. Naturk."
- Vol. lxvii, 1930, p. 142, 2nd col., line 15, for "*Rhizochilus*" read "*Phizoschilus*"
- Vol. lxvii, 1930, p. 170, 2nd col., delete *Cnecostolus* subgen. n. etc.
- Vol. lxvii, 1930, p. 193, 2nd col., transfer *Falsophaeopterus* and *Mimophaeopterus* to LYCIDAE.
- Vol. lxvii, 1930, p. 241, 1st col., line 13, for "*secundae*" read "*secunda*"
- Vol. lxvii, 1930, p. 242, 1st col., 12 lines from end, for "p. 159" read "p. 158"
- Vol. lxvii, 1930, p. 246, 1st col., line 11, delete "nom. nud."
- Vol. lxvii, 1930, p. 246, 2nd col., 6 lines from end, for "S. Russia" read "Ala-Tau"
- Vol. lxvii, 1930, p. 252, transfer *Lepidomys* and *Musotima* to PYRALIDAE.
- Vol. lxvii, 1930, p. 260, for "*Eucrostis*" read "*Eucrotes*"
- Vol. lxvii, 1930, p. 277, for "*Helonoles*" read "*Helonodes*"
- Vol. lxvii, 1930, p. 306, 2nd col., for "*Aglaostoma*" read "*Aglautoma*"
- Vol. lxvii, 1930, p. 317, 2nd line, for "*Atlophorus*" read "*Athlophorus*"

Vol. lxvii, 1930, p. 332, transfer *Paracladura* to TRICHO CERIDAE.

Vol. lxvii, 1930, p. 335, 1st col., line 1, for "*griseocolilis*" read "*griseicollis*"

Vol. lxvii, 1930, p. 338, 2nd col., for "*Philopoa*" read "*Philopota*"

Vol. lxvii, 1930, p. 343, for "*Gymnopterus*." read "*Gymnopternus*"

Vol. lxvii, 1930, p. 345, for "*Callostigma*" read "*Calostigma*"

Vol. lxvii, 1930, p. 346, transfer *Condyllostylus* to DOLICHOPODIDAE.

Vol. lxvii, 1930, p. 356, for "*Pediasomyia*" read "*Pediasiomysia*"

Vol. lxvii, 1930, p. 359, 1st col., line 6, for "**36**" read "**38**"

Vol. lxvii, 1930, p. 360, 1st col., lines 41, 50 & 52 for "*Amoebolaria*" read "*Amoebaleria*"

Vol. lxvii, 1930, p. 392, 2nd col., for "*Melinzoderes*" read "*Melizoderes*"

Vol. lxvii, 1930, p. 396, 2nd col., after "*Cecidotrioza*" insert "(gen. n. Kieff. 1909 non descr.)"

Vol. lxvii, 1930, p. 412, line 7, delete "?" and line 8 for "[Author in Japanese]" read "TAKAHASHI"

Vol. lxvii, 1930, p. 428, for "*Pararcomacris*" read "*Paracomacris*"

Vol. lxvii, 1930, p. 432, 1st col., line 11, for "in 44 pp." read "p. 6"

Vol. lxvii, 1930, p. 432, 2nd col., line 29, for "**9**" read "**86**"

THE ZOOLOGICAL RECORD.

THE object of the ZOOLOGICAL RECORD is to give, by means of an annual Volume, complete lists of the Works and Publications relating to Zoology in all its branches that have appeared during the year preceding the issue of the Volume, together with a Subject and Systematic Index.

This volume of the "Zoological Record" can be obtained from the Society at the price of 60s. per volume.

The Society is unable to supply complete sets of the "Record" now, but can supply *separate* volumes on the following terms:—

Vols. 1 to 42 (except volumes 3, 4, 5, 6, 7, 9, 11, 12, 13, 14, 15, 16, 19, 20, 22, 23, 24, 25, 26, 27, 31, 32, 33, 34, 35, 36, 37, 38 and 40, which are out of print) at 10s. each.

Vols. 43 to 57, 40s. each.

Vols. 58 to 68, 60s. each.

Volume 69, dealing with the literature of 1932, is in preparation and will be printed and published if a sufficient support is obtained. The advance subscription price is 50s.; the price on publication will be £3. Forms of subscription can be obtained on application to The Secretary, Zoological Society of London, Regent's Park, N.W.8. The prices of the Separate Divisions are given on the other side of this page.

Index Zoologicus.—An alphabetical list of names of genera and subgenera proposed for use in Zoology, as recorded in the "Zoological Record," 1880–1900; together with other names not included in the "Nomenclator Zoologicus" of S. H. Scudder. Compiled (for the Zoological Society of London) by CHARLES OWEN WATERHOUSE and edited by DAVID SHARP, late Editor of the "Zoological Record." London, 1902. Price to Fellows, 16s. 8d.; price to the public, 20s., or if sold with a set of the "Zoological Record," 10s.

Index Zoologicus No. II.—An alphabetical list of names of genera and subgenera proposed for use in Zoology, as recorded in the "Zoological Record," Vols. 38–47 inclusive (1901–1910), and the Zoology volumes of the "International Catalogue of Scientific Literature," Annual Issues 1–10. Compiled (for the Zoological Society of London) by CHARLES OWEN WATERHOUSE, I.S.O., and edited by DAVID SHARP, M.A., F.R.S., late editor of the "Zoological Record." London, 1912. Price to Fellows, 12s. 6d. net; price to the public, 15s. net, or if sold with a set of the "Zoological Record," 10s.

